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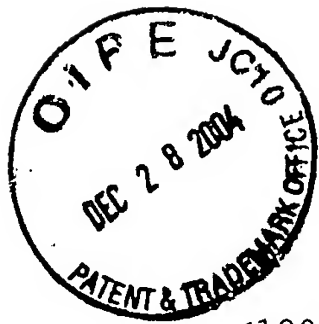<151> 1998-06-04

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                 35                  40                  45

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                 50                  55                  60

 Cys Arg Leu Leu Gly Leu Ser Leu Ala Gly Lys Asp Gln Val Glu
                 65                  70                  75

 Thr Ala Leu Lys Ala Ser Phe Glu Thr Cys Ser Tyr Gly Trp Val
                 80                  85                  90

 Gly Asp Gly Phe Val Val Ile Ser Arg Ile Ser Pro Asn Pro Lys
                 95                 100                 105

 Cys Gly Lys Asn Gly Val Gly Val Leu Ile Trp Lys Val Pro Val
                110                 115                 120

 Ser Arg Gln Phe Ala Ala Tyr Cys Tyr Asn Ser Ser Asp Thr Trp
                125                 130                 135
```

```
Thr Asn Ser Cys Ile Pro Glu Ile Ile Thr Thr Lys Asp Pro Ile
                140                 145                 150

Phe Asn Thr Gln Thr Ala Thr Gln Thr Thr Glu Phe Ile Val Ser
                155                 160                 165

Asp Ser Thr Tyr Ser Val Ala Ser Pro Tyr Ser Thr Ile Pro Ala
                170                 175                 180

Pro Thr Thr Thr Pro Pro Ala Pro Ala Ser Thr Ser Ile Pro Arg
                185                 190                 195

Arg Lys Lys Leu Ile Cys Val Thr Glu Val Phe Met Glu Thr Ser
                200                 205                 210

Thr Met Ser Thr Glu Thr Glu Pro Phe Val Glu Asn Lys Ala Ala
                215                 220                 225

Phe Lys Asn Glu Ala Ala Gly Phe Gly Gly Val Pro Thr Ala Leu
                230                 235                 240

Leu Val Leu Ala Leu Leu Phe Phe Gly Ala Ala Ala Gly Leu Gly
                245                 250                 255

Phe Cys Tyr Val Lys Arg Tyr Val Lys Ala Phe Pro Phe Thr Asn
                260                 265                 270

Lys Asn Gln Gln Lys Glu Met Ile Glu Thr Lys Val Val Lys Glu
                275                 280                 285

Glu Lys Ala Asn Asp Ser Asn Pro Asn Glu Glu Ser Lys Lys Thr
                290                 295                 300

Asp Lys Asn Pro Glu Glu Ser Lys Ser Pro Ser Lys Thr Thr Val
                305                 310                 315

Arg Cys Leu Glu Ala Glu Val
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<210> 7
<211> 2586
<212> DNA
<213> Homo Sapien

<400> 7
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 ccgcagcgca actcggtcca gtcggggcgg cggctgcggg cgcagagcgg 150

 agatgcagcg gcttggggcc accctgctgt gcctgctgct ggcggcggcg 200

 gtccccacgg cccccgcgcc cgctccgacg gcgacctcgg ctccagtcaa 250

 gcccggcccg gctctcagct acccgcagga ggaggccacc ctcaatgaga 300
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tgttccgcga ggttgaggaa ctgatggagg acacgcagca caaattgcgc 350

agcgcggtgg aagagatgga ggcagaagaa gctgctgcta aagcatcatc 400

agaagtgaac ctggcaaact tacctcccag ctatcacaat gagaccaaca 450

cagacacgaa ggttggaaat aataccatcc atgtgcaccg agaaattcac 500

aagataacca acaaccagac tggacaaatg gtcttttcag agacagttat 550

cacatctgtg ggagacgaag aaggcagaag gagccacgag tgcatcatcg 600

acgaggactg tgggcccagc atgtactgcc agtttgccag cttccagtac 650

acctgccagc catgccgggg ccagaggatg ctctgcaccc gggacagtga 700

gtgctgtgga gaccagctgt gtgtctgggg tcactgcacc aaaatggcca 750

ccagggggcag caatgggacc atctgtgaca accagaggga ctgccagccg 800

gggctgtgct gtgccttcca gagaggcctg ctgttccctg tgtgcacacc 850

cctgcccgtg gagggcgagc tttgccatga ccccgccagc cggcttctgg 900

acctcatcac ctgggagcta gagcctgatg gagccttgga ccgatgccct 950

tgtgccagtg gcctcctctg ccagccccac agccacagcc tggtgtatgt 1000

gtgcaagccg accttcgtgg ggagccgtga ccaagatggg gagatcctgc 1050

tgcccagaga ggtccccgat gagtatgaag ttggcagctt catggaggag 1100

gtgcgccagg agctggagga cctggagagg agcctgactg aagagatggc 1150

gctggggggag cctgcggctg ccgccgctgc actgctggga ggggaagaga 1200

tttagatctg gaccaggctg tgggtagatg tgcaatagaa atagctaatt 1250

tatttcccca ggtgtgtgct ttaggcgtgg gctgaccagg cttcttccta 1300

catcttcttc ccagtaagtt tcccctctgg cttgacagca tgaggtgttg 1350

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tccagattat tggctgcttt gcctctacca gttggcagac agccgtttgt 1500

tctacatggc tttgataatt gtttgagggg aggagatgga aacaatgtgg 1550

agtctccctc tgattggttt tggggaaatg tggagaagag tgccctgctt 1600

tgcaaacatc aacctggcaa aaatgcaaca aatgaatttt ccacgcagtt 1650

ctttccatgg gcataggtaa gctgtgcctt cagctgttgc agatgaaatg 1700

ttctgttcac cctgcattac atgtgtttat tcatccagca gtgttgctca 1750
```

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gctcctacct ctgtgccagg gcagcatttt catatccaag atcaattccc 1800

tctctcagca cagcctgggg aggggtcat tgttctcctc gtccatcagg 1850

gatctcagag gctcagagac tgcaagctgc ttgcccaagt cacacagcta 1900

gtgaagacca gagcagtttc atctggttgt gactctaagc tcagtgctct 1950

ctccactacc ccacaccagc cttggtgcca ccaaaagtgc tccccaaaag 2000

gaaggagaat gggatttttc ttgaggcatg cacatctgga attaaggtca 2050

aactaattct cacatccctc taaaagtaaa ctactgttag gaacagcagt 2100

gttctcacag tgtggggcag ccgtccttct aatgaagaca atgatattga 2150

cactgtccct ctttggcagt tgcattagta actttgaaag gtatatgact 2200

gagcgtagca tacaggttaa cctgcagaaa cagtacttag gtaattgtag 2250

ggcgaggatt ataaatgaaa tttgcaaaat cacttagcag caactgaaga 2300

caattatcaa ccacgtggag aaaatcaaac cgagcagggc tgtgtgaaac 2350

atggttgtaa tatgcgactg cgaacactga actctacgcc actccacaaa 2400

tgatgttttc aggtgtcatg gactgttgcc accatgtatt catccagagt 2450

tcttaaagtt taaagttgca catgattgta taagcatgct ttctttgagt 2500

tttaaattat gtataaacat aagttgcatt tagaaatcaa gcataaatca 2550

cttcaactgc aaaaaaaaaa aaaaaaaaaa aaaaaa 2586
```

<210> 8
<211> 350
<212> PRT
<213> Homo Sapien

<400> 8

```
Met Gln Arg Leu Gly Ala Thr Leu Leu Cys Leu Leu Leu Ala Ala
 1               5                  10                  15

Ala Val Pro Thr Ala Pro Ala Pro Ala Pro Thr Ala Thr Ser Ala
                20                  25                  30

Pro Val Lys Pro Gly Pro Ala Leu Ser Tyr Pro Gln Glu Glu Ala
                35                  40                  45

Thr Leu Asn Glu Met Phe Arg Glu Val Glu Glu Leu Met Glu Asp
                50                  55                  60

Thr Gln His Lys Leu Arg Ser Ala Val Glu Glu Met Glu Ala Glu
                65                  70                  75

Glu Ala Ala Ala Lys Ala Ser Ser Glu Val Asn Leu Ala Asn Leu
```

```
                    80                    85                    90

Pro Pro Ser Tyr His Asn Glu Thr Asn Thr Asp Thr Lys Val Gly
                95                   100                   105

Asn Asn Thr Ile His Val His Arg Glu Ile His Lys Ile Thr Asn
               110                   115                   120

Asn Gln Thr Gly Gln Met Val Phe Ser Glu Thr Val Ile Thr Ser
               125                   130                   135

Val Gly Asp Glu Glu Gly Arg Arg Ser His Glu Cys Ile Ile Asp
               140                   145                   150

Glu Asp Cys Gly Pro Ser Met Tyr Cys Gln Phe Ala Ser Phe Gln
               155                   160                   165

Tyr Thr Cys Gln Pro Cys Arg Gly Gln Arg Met Leu Cys Thr Arg
               170                   175                   180

Asp Ser Glu Cys Cys Gly Asp Gln Leu Cys Val Trp Gly His Cys
               185                   190                   195

Thr Lys Met Ala Thr Arg Gly Ser Asn Gly Thr Ile Cys Asp Asn
               200                   205                   210

Gln Arg Asp Cys Gln Pro Gly Leu Cys Cys Ala Phe Gln Arg Gly
               215                   220                   225

Leu Leu Phe Pro Val Cys Thr Pro Leu Pro Val Glu Gly Glu Leu
               230                   235                   240

Cys His Asp Pro Ala Ser Arg Leu Leu Asp Leu Ile Thr Trp Glu
               245                   250                   255

Leu Glu Pro Asp Gly Ala Leu Asp Arg Cys Pro Cys Ala Ser Gly
               260                   265                   270

Leu Leu Cys Gln Pro His Ser His Ser Leu Val Tyr Val Cys Lys
               275                   280                   285

Pro Thr Phe Val Gly Ser Arg Asp Gln Asp Gly Glu Ile Leu Leu
               290                   295                   300

Pro Arg Glu Val Pro Asp Glu Tyr Glu Val Gly Ser Phe Met Glu
               305                   310                   315

Glu Val Arg Gln Glu Leu Glu Asp Leu Glu Arg Ser Leu Thr Glu
               320                   325                   330

Glu Met Ala Leu Gly Glu Pro Ala Ala Ala Ala Ala Leu Leu
               335                   340                   345

Gly Gly Glu Glu Ile
               350
```

<210> 9

<211> 1395
<212> DNA
<213> Homo Sapien

<400> 9

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atcatgcaac cccacggccc accttgtgaa ctcctcgtgc ccagggctga 100

tgtgcgtctt ccagggctac tcatccaaag gcctaatcca acgttctgtc 150

ttcaatctgc aaatctatgg ggtcctgggg ctcttctgga cccttaactg 200

ggtactggcc ctgggccaat gcgtcctcgc tggagccttt gcctccttct 250

actgggcctt ccacaagccc caggacatcc ctaccttccc cttaatctct 300

gccttcatcc gcacactccg ttaccacact gggtcattgg catttggagc 350

cctcatcctg acccttgtgc agatagcccg ggtcatcttg gagtatattg 400

accacaagct cagaggagtg cagaaccctg tagcccgctg catcatgtgc 450

tgtttcaagt gctgcctctg gtgtctggaa aaatttatca agttcctaaa 500

ccgcaatgca tacatcatga tcgccatcta cgggaagaat ttctgtgtct 550

cagccaaaaa tgcgttcatg ctactcatgc gaaacattgt cagggtggtc 600

gtcctggaca aagtcacaga cctgctgctg ttctttggga agctgctggt 650

ggtcggaggc gtgggggtcc tgtccttctt tttttctcc ggtcgcatcc 700

cggggctggg taaagacttt aagagccccc acctcaacta ttactggctg 750

cccatcatga cctccatcct gggggcctat gtcatcgcca gcggcttctt 800

cagcgttttc ggcatgtgtg tggacacgct cttcctctgc ttcctggaag 850

acctggagcg gaacaacggc tccctggacc ggccctacta catgtccaag 900

agccttctaa agattctggg caagaagaac gaggcgcccc cggacaacaa 950

gaagaggaag aagtgacagc tccggccctg atccaggact gcaccccacc 1000

cccaccgtcc agccatccaa cctcacttcg ccttacaggt ctccattttg 1050

tggtaaaaaa aggttttagg ccaggcgccg tggctcacgc ctgtaatcca 1100

acactttgag aggctgaggc gggcggatca cctgagtcag gagttcgaga 1150

ccagcctggc caacatggtg aaacctccgt ctctattaaa aatacaaaaa 1200

ttagccgaga gtggtggcat gcacctgtca tcccagctac tcgggaggct 1250

gaggcaggag aatcgcttga acccgggagg cagaggttgc agtgagccga 1300
```

```
     gatcgcgcca ctgcactcca acctgggtga cagactctgt ctccaaaaca 1350

     aaacaaacaa acaaaaagat tttattaaag atattttgtt aactc 1395
```

<210> 10
<211> 321
<212> PRT
<213> Homo Sapien

<400> 10

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 Arg Thr Arg Gly Arg Thr Arg Gly Gly Cys Glu Lys Val Pro Ile
  1               5                  10                  15

 Asn Thr Ser Cys Asn Pro Thr Ala His Leu Val Asn Ser Ser Cys
                 20                  25                  30

 Pro Gly Leu Met Cys Val Phe Gln Gly Tyr Ser Ser Lys Gly Leu
                 35                  40                  45

 Ile Gln Arg Ser Val Phe Asn Leu Gln Ile Tyr Gly Val Leu Gly
                 50                  55                  60

 Leu Phe Trp Thr Leu Asn Trp Val Leu Ala Leu Gly Gln Cys Val
                 65                  70                  75

 Leu Ala Gly Ala Phe Ala Ser Phe Tyr Trp Ala Phe His Lys Pro
                 80                  85                  90

 Gln Asp Ile Pro Thr Phe Pro Leu Ile Ser Ala Phe Ile Arg Thr
                 95                 100                 105

 Leu Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile Leu
                110                 115                 120

 Thr Leu Val Gln Ile Ala Arg Val Ile Leu Glu Tyr Ile Asp His
                125                 130                 135

 Lys Leu Arg Gly Val Gln Asn Pro Val Ala Arg Cys Ile Met Cys
                140                 145                 150

 Cys Phe Lys Cys Cys Leu Trp Cys Leu Glu Lys Phe Ile Lys Phe
                155                 160                 165

 Leu Asn Arg Asn Ala Tyr Ile Met Ile Ala Ile Tyr Gly Lys Asn
                170                 175                 180

 Phe Cys Val Ser Ala Lys Asn Ala Phe Met Leu Leu Met Arg Asn
                185                 190                 195

 Ile Val Arg Val Val Val Leu Asp Lys Val Thr Asp Leu Leu Leu
                200                 205                 210

 Phe Phe Gly Lys Leu Leu Val Val Gly Gly Val Gly Val Leu Ser
                215                 220                 225

 Phe Phe Phe Phe Ser Gly Arg Ile Pro Gly Leu Gly Lys Asp Phe
                230                 235                 240
```

```
Lys Ser Pro His Leu Asn Tyr Tyr Trp Leu Pro Ile Met Thr Ser
                245                 250                 255
Ile Leu Gly Ala Tyr Val Ile Ala Ser Gly Phe Phe Ser Val Phe
                260                 265                 270

Gly Met Cys Val Asp Thr Leu Phe Leu Cys Phe Leu Glu Asp Leu
                275                 280                 285

Glu Arg Asn Asn Gly Ser Leu Asp Arg Pro Tyr Tyr Met Ser Lys
                290                 295                 300

Ser Leu Leu Lys Ile Leu Gly Lys Lys Asn Glu Ala Pro Pro Asp
                305                 310                 315

Asn Lys Lys Arg Lys Lys
                320
```

<210> 11
<211> 1901
<212> DNA
<213> Homo Sapien

<400> 11
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 gccccgcgcc cggcgccggg cgcccgaagc cgggagccac cgccatgggg  50

 gcctgcctgg gagcctgctc cctgctcagc tgcgcgtcct gcctctgcgg 100

 ctctgccccc tgcatcctgt gcagctgctg ccccgccagc cgcaactcca 150

 ccgtgagccg cctcatcttc acgttcttcc tcttcctggg ggtgctggtg 200

 tccatcatta tgctgagccc gggcgtggag agtcagctct acaagctgcc 250

 ctgggtgtgt gaggaggggg ccgggatccc caccgtcctg cagggccaca 300

 tcgactgtgg ctccctgctt ggctaccgcg ctgtctaccg catgtgcttc 350

 gccacggcgg ccttcttctt cttcttttc accctgctca tgctctgcgt 400

 gagcagcagc cgggaccccc gggctgccat ccagaatggg ttttggttct 450

 ttaagttcct gatcctggtg ggcctcaccg tgggtgcctt ctacatccct 500

 gacggctcct tcaccaacat ctggttctac ttcggcgtcg tgggctcctt 550

 cctcttcatc ctcatccagc tggtgctgct catcgacttt gcgcactcct 600

 ggaaccagcg gtggctgggc aaggccgagg agtgcgattc ccgtgcctgg 650

 tacgcaggcc tcttcttctt cactctcctc ttctacttgc tgtcgatcgc 700

 ggccgtggcg ctgatgttca tgtactacac tgagcccagc ggctgccacg 750

 agggcaaggt cttcatcagc ctcaacctca ccttctgtgt ctgcgtgtcc 800

 atcgctgctg tcctgcccaa ggtccaggac gcccagccca actcgggtct 850
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gctgcaggcc tcggtcatca ccctctacac catgtttgtc acctggtcag 900

ccctatccag tatccctgaa cagaaatgca accccattt gccaacccag 950

ctgggcaacg agacagttgt ggcaggcccc gagggctatg agacccagtg 1000
gtgggatgcc ccgagcattg tgggcctcat catcttcctc ctgtgcaccc 1050

tcttcatcag tctgcgctcc tcagaccacc ggcaggtgaa cagcctgatg 1100

cagaccgagg agtgcccacc tatgctagac gccacacagc agcagcagca 1150

gcaggtggca gcctgtgagg gccgggcctt tgacaacgag caggacggcg 1200

tcacctacag ctactccttc ttccacttct gcctggtgct ggcctcactg 1250

cacgtcatga tgacgctcac caactggtac aagcccggtg agacccggaa 1300

gatgatcagc acgtggaccg ccgtgtgggt gaagatctgt gccagctggg 1350

cagggctgct cctctacctg tggaccctgg tagccccact cctcctgcgc 1400

aaccgcgact tcagctgagg cagcctcaca gcctgccatc tggtgcctcc 1450

tgccacctgg tgcctctcgg ctcggtgaca gccaacctgc cccctcccca 1500

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agggctccct tgtcctcagg ctccacggga gcggggctgc tggagagagc 1750

ggggaactcc caccacagtg gggcatccgg cactgaagcc ctggtgttcc 1800

tggtcacgtc ccccagggga ccctgccccc ttcctggact tcgtgcctta 1850

ctgagtctct aagacttttt ctaataaaca agccagtgcg tgtaaaaaaa 1900

a 1901

<210> 12
<211> 457
<212> PRT
<213> Homo Sapien

<400> 12
 Met Gly Ala Cys Leu Gly Ala Cys Ser Leu Leu Ser Cys Ala Ser
  1               5                  10                  15

 Cys Leu Cys Gly Ser Ala Pro Cys Ile Leu Cys Ser Cys Cys Pro
                  20                  25                  30

 Ala Ser Arg Asn Ser Thr Val Ser Arg Leu Ile Phe Thr Phe Phe
```

Leu Phe Leu Gly Val Leu Val Ser Ile Ile Met Leu Ser Pro Gly
              50   55   60

Val Glu Ser Gln Leu Tyr Lys Leu Pro Trp Val Cys Glu Glu Gly
              65   70   75

Ala Gly Ile Pro Thr Val Leu Gln Gly His Ile Asp Cys Gly Ser
              80   85   90

Leu Leu Gly Tyr Arg Ala Val Tyr Arg Met Cys Phe Ala Thr Ala
              95   100   105

Ala Phe Phe Phe Phe Phe Phe Thr Leu Leu Met Leu Cys Val Ser
              110   115   120

Ser Ser Arg Asp Pro Arg Ala Ala Ile Gln Asn Gly Phe Trp Phe
              125   130   135

Phe Lys Phe Leu Ile Leu Val Gly Leu Thr Val Gly Ala Phe Tyr
              140   145   150

Ile Pro Asp Gly Ser Phe Thr Asn Ile Trp Phe Tyr Phe Gly Val
              155   160   165

Val Gly Ser Phe Leu Phe Ile Leu Ile Gln Leu Val Leu Leu Ile
              170   175   180

Asp Phe Ala His Ser Trp Asn Gln Arg Trp Leu Gly Lys Ala Glu
              185   190   195

Glu Cys Asp Ser Arg Ala Trp Tyr Ala Gly Leu Phe Phe Phe Thr
              200   205   210

Leu Leu Phe Tyr Leu Leu Ser Ile Ala Ala Val Ala Leu Met Phe
              215   220   225

Met Tyr Tyr Thr Glu Pro Ser Gly Cys His Glu Gly Lys Val Phe
              230   235   240

Ile Ser Leu Asn Leu Thr Phe Cys Val Cys Val Ser Ile Ala Ala
              245   250   255

Val Leu Pro Lys Val Gln Asp Ala Gln Pro Asn Ser Gly Leu Leu
              260   265   270

Gln Ala Ser Val Ile Thr Leu Tyr Thr Met Phe Val Thr Trp Ser
              275   280   285

Ala Leu Ser Ser Ile Pro Glu Gln Lys Cys Asn Pro His Leu Pro
              290   295   300

Thr Gln Leu Gly Asn Glu Thr Val Val Ala Gly Pro Glu Gly Tyr
              305   310   315

Glu Thr Gln Trp Trp Asp Ala Pro Ser Ile Val Gly Leu Ile Ile

Phe Leu Leu Cys Thr Leu Phe Ile Ser Leu Arg Ser Ser Asp His
                335   340   345

Arg Gln Val Asn Ser Leu Met Gln Thr Glu Glu Cys Pro Pro Met
                350   355   360

Leu Asp Ala Thr Gln Gln Gln Gln Gln Gln Val Ala Ala Cys Glu
                365   370   375

Gly Arg Ala Phe Asp Asn Glu Gln Asp Gly Val Thr Tyr Ser Tyr
                380   385   390

Ser Phe Phe His Phe Cys Leu Val Leu Ala Ser Leu His Val Met
                395   400   405

Met Thr Leu Thr Asn Trp Tyr Lys Pro Gly Glu Thr Arg Lys Met
                410   415   420

Ile Ser Thr Trp Thr Ala Val Trp Val Lys Ile Cys Ala Ser Trp
                425   430   435

Ala Gly Leu Leu Leu Tyr Leu Trp Thr Leu Val Ala Pro Leu Leu
                440   445   450

Leu Arg Asn Arg Asp Phe Ser
                455

<210> 13
<211> 1572
<212> DNA
<213> Homo Sapien

<400> 13
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 ctttagggat ggtgaggttg gaaaaagact cctgtaaccc tcctccagga 100

 tgaaccacct gccagaagac atggagaacg ctctcaccgg gagccagagc 150

 tcccatgctt ctctgcgcaa tatccattcc atcaacccca cacaactcat 200

 ggccaggatt gagtcctatg aaggaaggga aagaaaggc atatctgatg 250

 tcaggaggac tttctgtttg tttgtcacct ttgacctctt attcgtaaca 300

 ttactgtgga aatagagtt aaatgtgaat ggaggcattg agaacacatt 350

 agagaaggag gtgatgcagt atgactacta ttcttcatat tttgatatat 400

 ttcttctggc agttttcga tttaaagtgt taatacttgc atatgctgtg 450

 tgcagactgc gccattggtg ggcaatagcg ttgacaacgg cagtgaccag 500

 tgcctttta ctagcaaaag tgatcctttc gaagcttttc tctcaagggg 550

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cttttggcta tgtgctgccc atcatttcat tcatccttgc ctggattgag 600

acgtggttcc tggatttcaa agtgttacct caagaagcag aagaagaaaa 650

cagactcctg atagttcagg atgcttcaga gagggcagca cttatacctg 700

gtggtctttc tgatggtcag ttttattccc ctcctgaatc cgaagcagga 750

tctgaagaag ctgaagaaaa acaggacagt gagaaaccac ttttagaact 800

atgagtacta cttttgttaa atgtgaaaaa ccctcacaga aagtcatcga 850

ggcaaaaaga ggcaggcagt ggagtctccc tgtcgacagt aaagttgaaa 900

tggtgacgtc cactgctggc tttattgaac agctaataaa gatttattta 950
ttgtaatacc tcacaaacgt tgtaccatat ccatgcacat ttagttgcct 1000

gcctgtggct ggtaaggtaa tgtcatgatt catcctctct tcagtgagac 1050

tgagcctgat gtgttaacaa ataggtgaag aaagtcttgt gctgtattcc 1100

taatcaaaag acttaatata ttgaagtaac acttttttag taagcaagat 1150

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atttattttg tatttctttt ttaacactct acatttccct tgtttttaa 1250

ctcatgcaca tgtgctcttt gtacagtttt aaaaagtgta ataaaatctg 1300

acatgtcaat gtggctagtt ttattttct tgttttgcat tatgtgtatg 1350

gcctgaagtg ttggacttgc aaaagggaa gaaaggaatt gcgaatacat 1400

gtaaaatgtc accagacatt tgtattattt ttatcatgaa atcatgtttt 1450

tctctgattg ttctgaaatg ttctaaatac tcttattttg aatgcacaaa 1500

atgacttaaa ccattcatat catgtttcct ttgcgttcag ccaatttcaa 1550

ttaaaatgaa ctaaattaaa aa 1572
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<210> 14
<211> 234
<212> PRT
<213> Homo Sapien

<400> 14

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Met Asn His Leu Pro Glu Asp Met Glu Asn Ala Leu Thr Gly Ser
 1               5                  10                  15

Gln Ser Ser His Ala Ser Leu Arg Asn Ile His Ser Ile Asn Pro
                20                  25                  30

Thr Gln Leu Met Ala Arg Ile Glu Ser Tyr Glu Gly Arg Glu Lys
                35                  40                  45

Lys Gly Ile Ser Asp Val Arg Arg Thr Phe Cys Leu Phe Val Thr
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Phe Asp Leu Leu Phe Val Thr Leu Leu Trp Ile Ile Glu Leu Asn
                    65   70   75

Val Asn Gly Gly Ile Glu Asn Thr Leu Glu Lys Glu Val Met Gln
                    80   85   90

Tyr Asp Tyr Tyr Ser Ser Tyr Phe Asp Ile Phe Leu Leu Ala Val
                    95   100   105

Phe Arg Phe Lys Val Leu Ile Leu Ala Tyr Ala Val Cys Arg Leu
                   110   115   120

Arg His Trp Trp Ala Ile Ala Leu Thr Thr Ala Val Thr Ser Ala
                   125   130   135

Phe Leu Leu Ala Lys Val Ile Leu Ser Lys Leu Phe Ser Gln Gly
                   140   145   150

Ala Phe Gly Tyr Val Leu Pro Ile Ile Ser Phe Ile Leu Ala Trp
                   155   160   165

Ile Glu Thr Trp Phe Leu Asp Phe Lys Val Leu Pro Gln Glu Ala
                   170   175   180

Glu Glu Glu Asn Arg Leu Leu Ile Val Gln Asp Ala Ser Glu Arg
                   185   190   195

Ala Ala Leu Ile Pro Gly Gly Leu Ser Asp Gly Gln Phe Tyr Ser
                   200   205   210

Pro Pro Glu Ser Glu Ala Gly Ser Glu Glu Ala Glu Glu Lys Gln
                   215   220   225

Asp Ser Glu Lys Pro Leu Leu Glu Leu
                   230

<210> 15
<211> 2768
<212> DNA
<213> Homo Sapien

<400> 15
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 caggaaagac tgaggccgcg gcctgccccg cccggctccc tgcgccgccg 100

 ccgcctcccg ggacagaaga tgtgctccag ggtccctctg ctgctgccgc 150

 tgctcctgct actggccctg gggcctgggg tgcagggctg cccatccggc 200

 tgccagtgca gccagccaca gacagtcttc tgcactgccc gccaggggac 250

 cacggtgccc cgagacgtgc acccgacac ggtggggctg tacgtctttg 300

 agaacggcat caccatgctc gacgcaggca gctttgccgg cctgccgggc 350

```
ctgcagctcc tggacctgtc acagaaccag atcgccagcc tgcccagcgg 400

ggtcttccag ccactcgcca acctcagcaa cctggacctg acggccaaca 450

ggctgcatga aatcaccaat gagaccttcc gtggcctgcg cgcctcgag 500

cgcctctacc tgggcaagaa ccgcatccgc cacatccagc ctggtgcctt 550

cgacacgctc gaccgcctcc tggagctcaa gctgcaggac aacgagctgc 600

gggcactgcc cccgctgcgc ctgccccgcc tgctgctgct ggacctcagc 650

cacaacagcc tcctggccct ggagcccggc atcctggaca ctgccaacgt 700

ggaggcgctg cggctggctg gtctggggct gcagcagctg gacgaggggc 750

tcttcagccg cttgcgcaac ctccacgacc tggatgtgtc cgacaaccag 800

ctggagcgag tgccacctgt gatccgaggc ctccggggcc tgacgcgcct 850

gcggctggcc ggcaacaccc gcattgccca gctgcggccc gaggacctgg 900

ccggcctggc tgccctgcag gagctggatg tgagcaacct aagcctgcag 950

gccctgcctg gcgacctctc gggcctcttc ccccgcctgc ggctgctggc 1000

agctgcccgc aacccccttca actgcgtgtg ccccctgagc tggtttggcc 1050

cctgggtgcg cgagagccac gtcacactgg ccagccctga ggagacgcgc 1100

tgccacttcc cgcccaagaa cgctggccgg ctgctcctgg agcttgacta 1150

cgccgacttt ggctgcccag ccaccaccac cacagccaca gtgcccacca 1200

cgaggcccgt ggtgcgggag cccacagcct tgtcttctag cttggctcct 1250

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cactgcccca ccgactgtag ggcctgtccc ccagccccag gactgcccac 1350

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ccgtctcacc tatcgcaacc tatcgggccc tgataagcgg ctggtgacgc 1650

tgcgactgcc tgcctcgctc gctgagtaca cggtcaccca gctgcggccc 1700

aacgccactt actccgtctg tgtcatgcct ttggggcccg ggcgggtgcc 1750
```

```
ggagggcgag gaggcctgcg gggaggccca tacaccccca gccgtccact 1800

ccaaccacgc cccagtcacc caggcccgcg agggcaacct gccgctcctc 1850

attgcgcccg ccctggccgc ggtgctcctg ccgcgctgg ctgcggtggg 1900

ggcagcctac tgtgtgcggc gggggcgggc catggcagca gcggctcagg 1950

acaaagggca ggtggggcca ggggctgggc ccctggaact ggagggagtg 2000

aaggtcccct tggagccagg cccgaaggca acagagggcg gtggagaggc 2050

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ctggcctcca gtcacccctc cacgcaaagc cctacatcta agccagagag 2150

agacagggca gctggggccg ggctctcagc cagtgagatg gccagccccc 2200

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gtcctgctgg gctctcccac tccaggcgga ccctgggggc cagtgaagga 2500

agctcccgga aagagcagag ggagagcggg taggcggctg tgtgactcta 2550

gtcttggccc caggaagcga aggaacaaaa gaaactggaa aggaagatgc 2600

tttaggaaca tgttttgctt ttttaaaata tatatattta taagagatcc 2650

tttcccattt attctgggaa gatgtttttc aaactcagag acaaggactt 2700

tggttttgt aagacaaacg atgatatgaa ggccttttgt aagaaaaaat 2750

aaaagatgaa gtgtgaaa 2768
```

<210> 16
<211> 673
<212> PRT
<213> Homo Sapien

<400> 16
```
Met Cys Ser Arg Val Pro Leu Leu Leu Pro Leu Leu Leu Leu Leu
 1               5                10                   15

Ala Leu Gly Pro Gly Val Gln Gly Cys Pro Ser Gly Cys Gln Cys
                20                25                   30

Ser Gln Pro Gln Thr Val Phe Cys Thr Ala Arg Gln Gly Thr Thr
                35                40                   45
```

Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe
            50   55   60

Glu Asn Gly Ile Thr Met Leu Asp Ala Gly Ser Phe Ala Gly Leu
                65   70   75

Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser
                80   85   90

Leu Pro Ser Gly Val Phe Gln Pro Leu Ala Asn Leu Ser Asn Leu
                95   100   105

Asp Leu Thr Ala Asn Arg Leu His Glu Ile Thr Asn Glu Thr Phe
                110   115   120

Arg Gly Leu Arg Arg Leu Glu Arg Leu Tyr Leu Gly Lys Asn Arg
                125   130   135

Ile Arg His Ile Gln Pro Gly Ala Phe Asp Thr Leu Asp Arg Leu
                140   145   150

Leu Glu Leu Lys Leu Gln Asp Asn Glu Leu Arg Ala Leu Pro Pro
                155   160   165

Leu Arg Leu Pro Arg Leu Leu Leu Leu Asp Leu Ser His Asn Ser
                170   175   180

Leu Leu Ala Leu Glu Pro Gly Ile Leu Asp Thr Ala Asn Val Glu
                185   190   195

Ala Leu Arg Leu Ala Gly Leu Gly Leu Gln Gln Leu Asp Glu Gly
                200   205   210

Leu Phe Ser Arg Leu Arg Asn Leu His Asp Leu Asp Val Ser Asp
                215   220   225

Asn Gln Leu Glu Arg Val Pro Pro Val Ile Arg Gly Leu Arg Gly
                230   235   240

Leu Thr Arg Leu Arg Leu Ala Gly Asn Thr Arg Ile Ala Gln Leu
                245   250   255

Arg Pro Glu Asp Leu Ala Gly Leu Ala Ala Leu Gln Glu Leu Asp
                260   265   270

Val Ser Asn Leu Ser Leu Gln Ala Leu Pro Gly Asp Leu Ser Gly
                275   280   285

Leu Phe Pro Arg Leu Arg Leu Leu Ala Ala Ala Arg Asn Pro Phe
                290   295   300

Asn Cys Val Cys Pro Leu Ser Trp Phe Gly Pro Trp Val Arg Glu
                305   310   315

Ser His Val Thr Leu Ala Ser Pro Glu Glu Thr Arg Cys His Phe
                320   325   330

```
Pro Pro Lys Asn Ala Gly Arg Leu Leu Leu Glu Leu Asp Tyr Ala
            335             340             345

Asp Phe Gly Cys Pro Ala Thr Thr Thr Thr Ala Thr Val Pro Thr
            350             355             360

Thr Arg Pro Val Val Arg Glu Pro Thr Ala Leu Ser Ser Ser Leu
            365             370             375

Ala Pro Thr Trp Leu Ser Pro Thr Ala Pro Ala Thr Glu Ala Pro
            380             385             390

Ser Pro Pro Ser Thr Ala Pro Pro Thr Val Gly Pro Val Pro Gln
            395             400             405

Pro Gln Asp Cys Pro Pro Ser Thr Cys Leu Asn Gly Gly Thr Cys
            410             415             420

His Leu Gly Thr Arg His His Leu Ala Cys Leu Cys Pro Glu Gly
            425             430             435

Phe Thr Gly Leu Tyr Cys Glu Ser Gln Met Gly Gln Gly Thr Arg
            440             445             450

Pro Ser Pro Thr Pro Val Thr Pro Arg Pro Arg Ser Leu Thr
            455             460             465

Leu Gly Ile Glu Pro Val Ser Pro Thr Ser Leu Arg Val Gly Leu
            470             475             480

Gln Arg Tyr Leu Gln Gly Ser Ser Val Gln Leu Arg Ser Leu Arg
            485             490             495

Leu Thr Tyr Arg Asn Leu Ser Gly Pro Asp Lys Arg Leu Val Thr
            500             505             510

Leu Arg Leu Pro Ala Ser Leu Ala Glu Tyr Thr Val Thr Gln Leu
            515             520             525

Arg Pro Asn Ala Thr Tyr Ser Val Cys Val Met Pro Leu Gly Pro
            530             535             540

Gly Arg Val Pro Glu Gly Glu Glu Ala Cys Gly Glu Ala His Thr
            545             550             555

Pro Pro Ala Val His Ser Asn His Ala Pro Val Thr Gln Ala Arg
            560             565             570

Glu Gly Asn Leu Pro Leu Leu Ile Ala Pro Ala Leu Ala Ala Val
            575             580             585

Leu Leu Ala Ala Leu Ala Ala Val Gly Ala Ala Tyr Cys Val Arg
            590             595             600

Arg Gly Arg Ala Met Ala Ala Ala Ala Gln Asp Lys Gly Gln Val
            605             610             615
```

```
Gly Pro Gly Ala Gly Pro Leu Glu Leu Glu Gly Val Lys Val Pro
            620                 625                 630

Leu Glu Pro Gly Pro Lys Ala Thr Glu Gly Gly Gly Glu Ala Leu
            635                 640                 645

Pro Ser Gly Ser Glu Cys Glu Val Pro Leu Met Gly Phe Pro Gly
            650                 655                 660

Pro Gly Leu Gln Ser Pro Leu His Ala Lys Pro Tyr Ile
            665                 670
```

<210> 17
<211> 1672
<212> DNA
<213> Homo Sapien

<400> 17

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gcagcggcga ggcggcggtg gtggctgagt ccgtggtggc agaggcgaag  50

gcgacagctc atgcgggtcc ggatagggct gacgctgctg ctgtgtgcgg 100

tgctgctgag cttggcctcg gcgtcctcgg atgaagaagg cagccaggat 150

gaatccttag attccaagac tactttgaca tcagatgagt cagtaaagga 200

ccatactact gcaggcagag tagttgctgg tcaaatattt cttgattcag 250

aagaatctga attagaatcc tctattcaag aagaggaaga cagcctcaag 300

agccaagagg gggaaagtgt cacagaagat atcagctttc tagagtctcc 350

aaatccagaa aacaaggact atgaagagcc aaagaaagta cggaaaccag 400
ctttgaccgc cattgaaggc acagcacatg gggagccctg ccacttccct 450

tttctttttcc tagataagga gtatgatgaa tgtacatcag atgggaggga 500

agatggcaga ctgtggtgtg ctacaaccta tgactacaaa gcagatgaaa 550

agtggggctt ttgtgaaact gaagaagagg ctgctaagag acggcagatg 600

caggaagcag aaatgatgta tcaaactgga atgaaaatcc ttaatggaag 650

caataagaaa agccaaaaaa gagaagcata tcggtatctc caaaaggcag 700

caagcatgaa ccataccaaa gccctggaga gagtgtcata tgctctttta 750

tttggtgatt acttgccaca gaatatccag gcagcgagag agatgtttga 800

gaagctgact gaggaaggct ctcccaaggg acagactgct cttggctttc 850

tgtatgcctc tggacttggt gttaattcaa gtcaggcaaa ggctcttgta 900

tattatacat ttggagctct tgggggcaat ctaatagccc acatggtttt 950

ggtaagtaga ctttagtgga aggctaataa tattaacatc agaagaattt 1000
```

```
gtggtttata gcggccacaa ctttttcagc tttcatgatc cagatttgct 1050

tgtattaaga ccaaatattc agttgaactt ccttcaaatt cttgttaatg 1100

gatataacac atggaatcta catgtaaatg aaagttggtg gagtccacaa 1150

tttttcttta aaatgattag tttggctgat tgcccctaaa aagagagatc 1200

tgataaatgg ctcttttaa attttctctg agttggaatt gtcagaatca 1250

ttttttacat tagattatca taattttaaa aatttttctt tagttttca 1300

aaattttgta aatggtggct atagaaaaac aacatgaaat attatacaat 1350

attttgcaac aatgccctaa gaattgttaa aattcatgga gttatttgtg 1400

cagaatgact ccagagagct ctactttctg tttttactt ttcatgattg 1450

gctgtcttcc catttattct ggtcatttat tgctagtgac actgtgcctg 1500

cttccagtag tctcattttc cctattttgc taatttgtta cttttctttt 1550

gctaatttgg aagattaact cattttaat aaaattatgt ctaagattaa 1600

aaaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaaaa 1650

aaaaaaaaa aaaaaaaaa aa 1672
```

<210> 18
<211> 301
<212> PRT
<213> Homo Sapien

<400> 18

```
Met Arg Val Arg Ile Gly Leu Thr Leu Leu Leu Cys Ala Val Leu
 1               5                  10                  15
Leu Ser Leu Ala Ser Ala Ser Ser Asp Glu Glu Gly Ser Gln Asp
                20                  25                  30

Glu Ser Leu Asp Ser Lys Thr Thr Leu Thr Ser Asp Glu Ser Val
                35                  40                  45

Lys Asp His Thr Thr Ala Gly Arg Val Val Ala Gly Gln Ile Phe
                50                  55                  60

Leu Asp Ser Glu Glu Ser Glu Leu Glu Ser Ser Ile Gln Glu Glu
                65                  70                  75

Glu Asp Ser Leu Lys Ser Gln Glu Gly Glu Ser Val Thr Glu Asp
                80                  85                  90

Ile Ser Phe Leu Glu Ser Pro Asn Pro Glu Asn Lys Asp Tyr Glu
                95                  100                 105

Glu Pro Lys Lys Val Arg Lys Pro Ala Leu Thr Ala Ile Glu Gly
                110                 115                 120
```

```
Thr Ala His Gly Glu Pro Cys His Phe Pro Phe Leu Phe Leu Asp
            125             130             135

Lys Glu Tyr Asp Glu Cys Thr Ser Asp Gly Arg Glu Asp Gly Arg
            140             145             150

Leu Trp Cys Ala Thr Thr Tyr Asp Tyr Lys Ala Asp Glu Lys Trp
            155             160             165

Gly Phe Cys Glu Thr Glu Glu Glu Ala Ala Lys Arg Arg Gln Met
            170             175             180

Gln Glu Ala Glu Met Met Tyr Gln Thr Gly Met Lys Ile Leu Asn
            185             190             195

Gly Ser Asn Lys Lys Ser Gln Lys Arg Glu Ala Tyr Arg Tyr Leu
            200             205             210

Gln Lys Ala Ala Ser Met Asn His Thr Lys Ala Leu Glu Arg Val
            215             220             225

Ser Tyr Ala Leu Leu Phe Gly Asp Tyr Leu Pro Gln Asn Ile Gln
            230             235             240

Ala Ala Arg Glu Met Phe Glu Lys Leu Thr Glu Glu Gly Ser Pro
            245             250             255

Lys Gly Gln Thr Ala Leu Gly Phe Leu Tyr Ala Ser Gly Leu Gly
            260             265             270

Val Asn Ser Ser Gln Ala Lys Ala Leu Val Tyr Tyr Thr Phe Gly
            275             280             285

Ala Leu Gly Gly Asn Leu Ile Ala His Met Val Leu Val Ser Arg
            290             295             300

Leu


<210> 19
<211> 1508
<212> DNA
<213> Homo Sapien

<400> 19
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 ggacaccatc ttcttgtatt atacaagaaa ggagtgtacc tatcacacac 100

 aggggggaaaa atgctctttt gggtgctagg cctcctaatc ctctgtggtt 150

 ttctgtggac tcgtaaagga aaactaaaga ttgaagacat cactgataag 200

 tacattttta tcactggatg tgactcgggc tttggaaact tggcagccag 250

 aactttgat aaaaagggat ttcatgtaat cgctgcctgt ctgactgaat 300
```

```
caggatcaac agctttaaag gcagaaacct cagagagact tcgtactgtg 350

cttctggatg tgaccgaccc agagaatgtc aagaggactg cccagtgggt 400

gaagaaccaa gttggggaga aaggtctctg gggtctgatc aataatgctg 450

gtgttcccgg cgtgctggct cccactgact ggctgacact agaggactac 500

agagaaccta ttgaagtgaa cctgtttgga ctcatcagtg tgacactaaa 550

tatgcttcct ttggtcaaga aagctcaagg gagagttatt aatgtctcca 600

gtgttggagg tcgccttgca atcgttggag ggggctatac tccatccaaa 650

tatgcagtgg aaggtttcaa tgacagctta agacgggaca tgaaagcttt 700

tggtgtgcac gtctcatgca ttgaaccagg attgttcaaa acaaacttgg 750

cagatccagt aaaggtaatt gaaaaaaaac tcgccatttg ggagcagctg 800

tctccagaca tcaaacaaca atatggagaa ggttacattg aaaaaagtct 850

agacaaactg aaaggcaata aatcctatgt gaacatggac ctctctccgg 900

tggtagagtg catggaccac gctctaacaa gtctcttccc taagactcat 950

tatgccgctg aaaagatgc caaaattttc tggatacctc tgtctcacat 1000

gccagcagct ttgcaagact ttttattgtt gaaacagaaa gcagagctgg 1050

ctaatcccaa ggcagtgtga ctcagctaac cacaaatgtc tcctccaggc 1100

tatgaaattg gccgatttca agaacacatc tccttttcaa ccccattcct 1150

tatctgctcc aacctggact catttagatc gtgcttattt ggattgcaaa 1200

agggagtccc accatcgctg gtggtatccc aggtccctg ctcaagtttt 1250

ctttgaaaag gagggctgga atggtacatc acataggcaa gtcctgccct 1300

gtatttaggc tttgcctgct tggtgtgatg taagggaaat tgaaagactt 1350

gcccattcaa aatgatcttt accgtggcct gccccatgct tatggtcccc 1400

agcatttaca gtaacttgtg aatgttaagt atcatctctt atctaaatat 1450

taaaagataa gtcaacccaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1500

aaaaaaaa 1508
```

<210> 20
<211> 319
<212> PRT
<213> Homo Sapien

<400> 20
Met Leu Phe Trp Val Leu Gly Leu Leu Ile Leu Cys Gly Phe Leu

```
    1                  5                      10                     15

 Trp Thr Arg Lys Gly Lys Leu Lys Ile Glu Asp Ile Thr Asp Lys
                 20                  25                  30

 Tyr Ile Phe Ile Thr Gly Cys Asp Ser Gly Phe Gly Asn Leu Ala
                 35                  40                  45

 Ala Arg Thr Phe Asp Lys Lys Gly Phe His Val Ile Ala Ala Cys
                 50                  55                  60

 Leu Thr Glu Ser Gly Ser Thr Ala Leu Lys Ala Glu Thr Ser Glu
                 65                  70                  75

 Arg Leu Arg Thr Val Leu Leu Asp Val Thr Asp Pro Glu Asn Val
                 80                  85                  90

 Lys Arg Thr Ala Gln Trp Val Lys Asn Gln Val Gly Glu Lys Gly
                 95                  100                 105

 Leu Trp Gly Leu Ile Asn Asn Ala Gly Val Pro Gly Val Leu Ala
                 110                 115                 120

 Pro Thr Asp Trp Leu Thr Leu Glu Asp Tyr Arg Glu Pro Ile Glu
                 125                 130                 135

 Val Asn Leu Phe Gly Leu Ile Ser Val Thr Leu Asn Met Leu Pro
                 140                 145                 150

 Leu Val Lys Lys Ala Gln Gly Arg Val Ile Asn Val Ser Ser Val
                 155                 160                 165

 Gly Gly Arg Leu Ala Ile Val Gly Gly Gly Tyr Thr Pro Ser Lys
                 170                 175                 180

 Tyr Ala Val Glu Gly Phe Asn Asp Ser Leu Arg Arg Asp Met Lys
                 185                 190                 195

 Ala Phe Gly Val His Val Ser Cys Ile Glu Pro Gly Leu Phe Lys
                 200                 205                 210

 Thr Asn Leu Ala Asp Pro Val Lys Val Ile Glu Lys Lys Leu Ala
                 215                 220                 225

 Ile Trp Glu Gln Leu Ser Pro Asp Ile Lys Gln Gln Tyr Gly Glu
                 230                 235                 240

 Gly Tyr Ile Glu Lys Ser Leu Asp Lys Leu Lys Gly Asn Lys Ser
                 245                 250                 255

 Tyr Val Asn Met Asp Leu Ser Pro Val Val Glu Cys Met Asp His
                 260                 265                 270

 Ala Leu Thr Ser Leu Phe Pro Lys Thr His Tyr Ala Ala Gly Lys
                 275                 280                 285

 Asp Ala Lys Ile Phe Trp Ile Pro Leu Ser His Met Pro Ala Ala
```

```
                 290                      295                      300
    Leu Gln Asp Phe Leu Leu Leu Lys Gln Lys Ala Glu Leu Ala Asn
                          305                      310                      315

    Pro Lys Ala Val
```

<210> 21
<211> 1849
<212> DNA
<213> Homo Sapien

<400> 21

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 ctgaggcggc ggtagcatgg aggggggagag tacgtcggcg gtgctctcgg 50

 gctttgtgct cggcgcactc gctttccagc acctcaacac ggactcggac 100

 acggaaggtt ttcttcttgg ggaagtaaaa ggtgaagcca agaacagcat 150

 tactgattcc caaatggatg atgttgaagt tgtttataca attgacattc 200

 agaaatatat tccatgctat cagcttttta gcttttataa ttcttcaggc 250

 gaagtaaatg agcaagcact gaagaaaata ttatcaaatg tcaaaaagaa 300

 tgtggtaggt tggtacaaat tccgtcgtca ttcagatcag atcatgacgt 350

 ttagagagag gctgcttcac aaaaacttgc aggagcattt ttcaaaccaa 400

 gaccttgttt ttctgctatt aacaccaagt ataataacag aaagctgctc 450

 tactcatcga ctggaacatt ccttatataa acctcaaaaa ggactttttc 500

 acagggtacc tttagtggtt gccaatctgg gcatgtctga caactgggt 550

 tataaaactg tatcaggttc ctgtatgtcc actggtttta gccgagcagt 600

 acaaacacac agctctaaat tttttgaaga agatggatcc ttaaaggagg 650

 tacataagat aaatgaaatg tatgcttcat tacaagagga attaaagagt 700

 atatgcaaaa aagtggaaga cagtgaacaa gcagtagata aactagtaaa 750

 ggatgtaaac agattaaaac gagaaattga gaaaggagag gagcacagaa 800

 ttcaggcagc aagagagaag aacatccaaa aagaccctca ggagaacatt 850

 tttctttgtc aggcattacg gacctttttt ccaaattctg aatttcttca 900

 ttcatgtgtt atgtctttaa aaaatagaca tgtttctaaa agtagctgta 950

 actacaacca ccatctcgat gtagtagaca atctgacctt aatggtagaa 1000

 cacactgaca ttcctgaagc tagtccagct agtacaccac aaatcattaa 1050

 gcataaagcc ttagacttag atgacagatg gcaattcaag agatctcggt 1100
```

```
tgttagatac acaagacaaa cgatctaaag caaatactgg tagtagtaac 1150

caagataaag catccaaaat gagcagccca gaaacagatg aagaaattga 1200

aaagatgaag ggttttggtg aatattcacg gtctcctaca ttttgatcct 1250

tttaacctta caaggagatt tttttatttg gctgatgggt aaagccaaac 1300

atttctattg tttttactat gttgagctac ttgcagtaag ttcatttgtt 1350

tttactatgt tcacctgttt gcagtaatac acagataact cttagtgcat 1400

ttacttcaca aagtactttt tcaaacatca gatgctttta tttccaaacc 1450

ttttttttcac ctttcactaa gttgttgagg ggaaggctta cacagacaca 1500

ttctttagaa ttggaaaagt gagaccaggc acagtggctc acacctgtaa 1550

tcccagcact tagggaagac aagtcaggag gattgattga agctaggagt 1600

tagagaccag cctgggcaac gtattgagac catgtctatt aaaaaataaa 1650

atggaaaagc aagaatagcc ttattttcaa aatatggaaa gaaatttata 1700

tgaaaattta tctgagtcat taaaattctc cttaagtgat acttttttag 1750

aagtacatta tggctagagt tgccagataa aatgctggat atcatgcaat 1800

aaatttgcaa aacatcatct aaaatttaaa aaaaaaaaaa aaaaaaaa 1849
```

<210> 22
<211> 409
<212> PRT
<213> Homo Sapien

<400> 22

```
Met Glu Gly Glu Ser Thr Ser Ala Val Leu Ser Gly Phe Val Leu
  1               5                  10                  15

Gly Ala Leu Ala Phe Gln His Leu Asn Thr Asp Ser Asp Thr Glu
                20                  25                  30

Gly Phe Leu Leu Gly Glu Val Lys Gly Glu Ala Lys Asn Ser Ile
                35                  40                  45

Thr Asp Ser Gln Met Asp Asp Val Glu Val Val Tyr Thr Ile Asp
                50                  55                  60

Ile Gln Lys Tyr Ile Pro Cys Tyr Gln Leu Phe Ser Phe Tyr Asn
                65                  70                  75
Ser Ser Gly Glu Val Asn Glu Gln Ala Leu Lys Lys Ile Leu Ser
                80                  85                  90

Asn Val Lys Lys Asn Val Val Gly Trp Tyr Lys Phe Arg Arg His
                95                  100                 105
```

```
Ser Asp Gln Ile Met Thr Phe Arg Glu Arg Leu Leu His Lys Asn
            110             115             120

Leu Gln Glu His Phe Ser Asn Gln Asp Leu Val Phe Leu Leu Leu
            125             130             135

Thr Pro Ser Ile Ile Thr Glu Ser Cys Ser Thr His Arg Leu Glu
            140             145             150

His Ser Leu Tyr Lys Pro Gln Lys Gly Leu Phe His Arg Val Pro
            155             160             165

Leu Val Val Ala Asn Leu Gly Met Ser Glu Gln Leu Gly Tyr Lys
            170             175             180

Thr Val Ser Gly Ser Cys Met Ser Thr Gly Phe Ser Arg Ala Val
            185             190             195

Gln Thr His Ser Ser Lys Phe Phe Glu Glu Asp Gly Ser Leu Lys
            200             205             210

Glu Val His Lys Ile Asn Glu Met Tyr Ala Ser Leu Gln Glu Glu
            215             220             225

Leu Lys Ser Ile Cys Lys Lys Val Glu Asp Ser Glu Gln Ala Val
            230             235             240

Asp Lys Leu Val Lys Asp Val Asn Arg Leu Lys Arg Glu Ile Glu
            245             250             255

Lys Arg Arg Gly Ala Gln Ile Gln Ala Ala Arg Glu Lys Asn Ile
            260             265             270

Gln Lys Asp Pro Gln Glu Asn Ile Phe Leu Cys Gln Ala Leu Arg
            275             280             285

Thr Phe Phe Pro Asn Ser Glu Phe Leu His Ser Cys Val Met Ser
            290             295             300

Leu Lys Asn Arg His Val Ser Lys Ser Ser Cys Asn Tyr Asn His
            305             310             315

His Leu Asp Val Val Asp Asn Leu Thr Leu Met Val Glu His Thr
            320             325             330

Asp Ile Pro Glu Ala Ser Pro Ala Ser Thr Pro Gln Ile Ile Lys
            335             340             345

His Lys Ala Leu Asp Leu Asp Asp Arg Trp Gln Phe Lys Arg Ser
            350             355             360

Arg Leu Leu Asp Thr Gln Asp Lys Arg Ser Lys Ala Asn Thr Gly
            365             370             375

Ser Ser Asn Gln Asp Lys Ala Ser Lys Met Ser Ser Pro Glu Thr
            380             385             390
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Asp Glu Glu Ile Glu Lys Met Lys Gly Phe Gly Glu Tyr Ser Arg
             395   400   405

Ser Pro Thr Phe

<210> 23
<211> 2651
<212> DNA
<213> Homo Sapien

<400> 23
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 cgccgcccac accctctgcg gtccccgcgg cgcctgccac ccttccctcc 150

 ttccccgcgt ccccgcctcg ccggccagtc agcttgccgg gttcgctgcc 200

 ccgcgaaacc ccgaggtcac cagcccgcgc ctctgcttcc ctgggccgcg 250

 cgccgcctcc acgccctcct tctcccctgg cccggcgcct ggcaccgggg 300

 accgttgcct gacgcgaggc ccagctctac ttttcgcccc gcgtctcctc 350

 cgcctgctcg cctcttccac caactccaac tccttctccc tccagctcca 400

 ctcgctagtc cccgactccg ccagccctcg gcccgctgcc gtagcgccgc 450

 ttcccgtccg gtcccaaagg tgggaacgcg tccgccccgg cccgcaccat 500

 ggcacggttc ggcttgcccg cgcttctctg caccctggca gtgctcagcg 550

 ccgcgctgct ggctgccgag ctcaagtcga aaagttgctc ggaagtgcga 600

 cgtctttacg tgtccaaagg cttcaacaag aacgatgccc ccctccacga 650

 gatcaacggt gatcatttga agatctgtcc ccagggttct acctgctgct 700

 ctcaagagat ggaggagaag tacagcctgc aaagtaaaga tgatttcaaa 750

 agtgtggtca gcgaacagtg caatcatttg caagctgtct ttgcttcacg 800

 ttacaagaag tttgatgaat tcttcaaaga actacttgaa aatgcagaga 850

 aatccctgaa tgatatgttt gtgaagacat atggccattt atacatgcaa 900

 aattctgagc tatttaaaga tctcttcgta gagttgaaac gttactacgt 950

 ggtgggaaat gtgaacctgg aagaaatgct aaatgacttc tgggctcgcc 1000

 tcctggagcg gatgttccgc ctggtgaact cccagtacca ctttacagat 1050

 gagtatctgg aatgtgtgag caagtatacg gagcagctga gcccttcgg 1100

 agatgtccct cgcaaattga gctccaggt tactcgtgct tttgtagcag 1150

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cccgtacttt cgctcaaggc ttagcggttg cgggagatgt cgtgagcaag 1200

gtctccgtgg taaaccccac agcccagtgt acccatgccc tgttgaagat 1250

gatctactgc tcccactgcc ggggtctcgt gactgtgaag ccatgttaca 1300

actactgctc aaacatcatg agaggctgtt tggccaacca aggggatctc 1350

gattttgaat ggaacaattt catagatgct atgctgatgg tggcagagag 1400

gctagagggt cctttcaaca ttgaatcggt catggatccc atcgatgtga 1450

agatttctga tgctattatg aacatgcagg ataatagtgt tcaagtgtct 1500

cagaaggttt tccagggatg tggacccccc aagcccctcc cagctggacg 1550

aatttctcgt tccatctctg aaagtgcctt cagtgctcgc ttcagaccac 1600

atcaccccga ggaacgccca accacagcag ctggcactag tttggaccga 1650

ctggttactg atgtcaagga gaaactgaaa caggccaaga aattctggtc 1700

ctcccttccg agcaacgttt gcaacgatga gaggatggct gcaggaaacg 1750

gcaatgagga tgactgttgg aatgggaaag gcaaaagcag gtacctgttt 1800

gcagtgacag gaaatggatt agccaaccag ggcaacaacc cagaggtcca 1850

ggttgacacc agcaaaccag acatactgat ccttcgtcaa atcatggctc 1900

ttcgagtgat gaccagcaag atgaagaatg catacaatgg gaacgacgtg 1950

gacttctttg atatcagtga tgaaagtagt ggagaaggaa gtggaagtgg 2000

ctgtgagtat cagcagtgcc cttcagagtt tgactacaat gccactgacc 2050

atgctgggaa gagtgccaat gagaaagccg acagtgctgg tgtccgtcct 2100

ggggcacagg cctacctcct cactgtcttc tgcatcttgt tcctggttat 2150

gcagagagag tggagataat tctcaaactc tgagaaaaag tgttcatcaa 2200

aaagttaaaa ggcaccagtt atcacttttc taccatccta gtgactttgc 2250

tttttaaatg aatggacaac aatgtacagt ttttactatg tggccactgg 2300

tttaagaagt gctgactttg ttttctcatt cagttttggg aggaaaaggg 2350

actgtgcatt gagttggttc ctgctccccc aaaccatgtt aaacgtggct 2400

aacagtgtag gtacagaact atagttagtt gtgcatttgt gattttatca 2450

ctctattatt tgtttgtatg ttttttttctc atttcgtttg tgggtttttt 2500

tttccaactg tgatctcgcc ttgtttctta caagcaaacc agggtccctt 2550

cttggcacgt aacatgtacg tatttctgaa atattaaata gctgtacaga 2600
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agcaggtttt atttatcatg ttatcttatt aaaagaaaaa gcccaaaaag 2650

c 2651

<210> 24
<211> 556
<212> PRT
<213> Homo Sapien

<400> 24
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 Met Ala Arg Phe Gly Leu Pro Ala Leu Leu Cys Thr Leu Ala Val
  1               5                  10                  15

 Leu Ser Ala Ala Leu Leu Ala Ala Glu Leu Lys Ser Lys Ser Cys
                  20                  25                  30

 Ser Glu Val Arg Arg Leu Tyr Val Ser Lys Gly Phe Asn Lys Asn
                  35                  40                  45

 Asp Ala Pro Leu His Glu Ile Asn Gly Asp His Leu Lys Ile Cys
                  50                  55                  60

 Pro Gln Gly Ser Thr Cys Cys Ser Gln Glu Met Glu Glu Lys Tyr
                  65                  70                  75

 Ser Leu Gln Ser Lys Asp Asp Phe Lys Ser Val Val Ser Glu Gln
                  80                  85                  90

 Cys Asn His Leu Gln Ala Val Phe Ala Ser Arg Tyr Lys Lys Phe
                  95                  100                 105

 Asp Glu Phe Phe Lys Glu Leu Leu Glu Asn Ala Glu Lys Ser Leu
                  110                 115                 120

 Asn Asp Met Phe Val Lys Thr Tyr Gly His Leu Tyr Met Gln Asn
                  125                 130                 135

 Ser Glu Leu Phe Lys Asp Leu Phe Val Glu Leu Lys Arg Tyr Tyr
                  140                 145                 150

 Val Val Gly Asn Val Asn Leu Glu Glu Met Leu Asn Asp Phe Trp
                  155                 160                 165

 Ala Arg Leu Leu Glu Arg Met Phe Arg Leu Val Asn Ser Gln Tyr
                  170                 175                 180

 His Phe Thr Asp Glu Tyr Leu Glu Cys Val Ser Lys Tyr Thr Glu
                  185                 190                 195

 Gln Leu Lys Pro Phe Gly Asp Val Pro Arg Lys Leu Lys Leu Gln
                  200                 205                 210

 Val Thr Arg Ala Phe Val Ala Ala Arg Thr Phe Ala Gln Gly Leu
                  215                 220                 225

 Ala Val Ala Gly Asp Val Val Ser Lys Val Ser Val Val Asn Pro
```

```
                    230                      235                      240

Thr Ala Gln Cys Thr His Ala Leu Leu Lys Met Ile Tyr Cys Ser
                245                      250                      255

His Cys Arg Gly Leu Val Thr Val Lys Pro Cys Tyr Asn Tyr Cys
                260                      265                      270

Ser Asn Ile Met Arg Gly Cys Leu Ala Asn Gln Gly Asp Leu Asp
                275                      280                      285

Phe Glu Trp Asn Asn Phe Ile Asp Ala Met Leu Met Val Ala Glu
                290                      295                      300

Arg Leu Glu Gly Pro Phe Asn Ile Glu Ser Val Met Asp Pro Ile
                305                      310                      315

Asp Val Lys Ile Ser Asp Ala Ile Met Asn Met Gln Asp Asn Ser
                320                      325                      330

Val Gln Val Ser Gln Lys Val Phe Gln Gly Cys Gly Pro Pro Lys
                335                      340                      345

Pro Leu Pro Ala Gly Arg Ile Ser Arg Ser Ile Ser Glu Ser Ala
                350                      355                      360

Phe Ser Ala Arg Phe Arg Pro His His Pro Glu Glu Arg Pro Thr
                365                      370                      375

Thr Ala Ala Gly Thr Ser Leu Asp Arg Leu Val Thr Asp Val Lys
                380                      385                      390

Glu Lys Leu Lys Gln Ala Lys Lys Phe Trp Ser Ser Leu Pro Ser
                395                      400                      405

Asn Val Cys Asn Asp Glu Arg Met Ala Ala Gly Asn Gly Asn Glu
                410                      415                      420

Asp Asp Cys Trp Asn Gly Lys Gly Lys Ser Arg Tyr Leu Phe Ala
                425                      430                      435

Val Thr Gly Asn Gly Leu Ala Asn Gln Gly Asn Asn Pro Glu Val
                440                      445                      450

Gln Val Asp Thr Ser Lys Pro Asp Ile Leu Ile Leu Arg Gln Ile
                455                      460                      465

Met Ala Leu Arg Val Met Thr Ser Lys Met Lys Asn Ala Tyr Asn
                470                      475                      480

Gly Asn Asp Val Asp Phe Phe Asp Ile Ser Asp Glu Ser Ser Gly
                485                      490                      495

Glu Gly Ser Gly Ser Gly Cys Glu Tyr Gln Gln Cys Pro Ser Glu
                500                      505                      510

Phe Asp Tyr Asn Ala Thr Asp His Ala Gly Lys Ser Ala Asn Glu
```

```
                  515                    520                    525
   Lys Ala Asp Ser Ala Gly Val Arg Pro Gly Ala Gln Ala Tyr Leu
                  530                    535                    540
   Leu Thr Val Phe Cys Ile Leu Phe Leu Val Met Gln Arg Glu Trp
                  545                    550                    555

   Arg

<210> 25
<211> 870
<212> DNA
<213> Homo Sapien

<400> 25
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 gctgagtatc ctgacctgag tcatccccag ggatcaggag cctccagcag 100

 ggaaccttcc attatattct tcaagcaact tacagctgca ccgacagttg 150

 cgatgaaagt tctaatctct tccctcctcc tgttgctgcc actaatgctg 200

 atgtccatgg tctctagcag cctgaatcca ggggtcgcca gaggccacag 250

 ggaccgaggc caggcttcta ggagatggct ccaggaaggc ggccaagaat 300

 gtgagtgcaa agattggttc ctgagagccc cgagaagaaa attcatgaca 350

 gtgtctgggc tgccaaagaa gcagtgcccc tgtgatcatt tcaagggcaa 400

 tgtgaagaaa acaagacacc aaaggcacca cagaaagcca aacaagcatt 450

 ccagagcctg ccagcaattt ctcaaacaat gtcagctaag aagctttgct 500

 ctgcctttgt aggagctctg agcgcccact cttccaatta aacattctca 550

 gccaagaaga cagtgagcac acctaccaga cactcttctt ctcccacctc 600

 actctcccac tgtacccacc cctaaatcat tccagtgctc tcaaaaagca 650

 tgtttttcaa gatcattttg tttgttgctc tctctagtgt cttcttctct 700

 cgtcagtctt agcctgtgcc ctccccttac ccaggcttag gcttaattac 750

 ctgaaagatt ccaggaaact gtagcttcct agctagtgtc atttaacctt 800

 aaatgcaatc aggaaagtag caaacagaag tcaataaata tttttaaatg 850

 tcaaaaaaaa aaaaaaaaaa 870

<210> 26
<211> 119
<212> PRT
<213> Homo Sapien
```

<400> 26
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Met Lys Val Leu Ile Ser Ser Leu Leu Leu Leu Pro Leu Met
1               5               10              15

Leu Met Ser Met Val Ser Ser Ser Leu Asn Pro Gly Val Ala Arg
            20              25              30

Gly His Arg Asp Arg Gly Gln Ala Ser Arg Arg Trp Leu Gln Glu
            35              40              45

Gly Gly Gln Glu Cys Glu Cys Lys Asp Trp Phe Leu Arg Ala Pro
            50              55              60
Arg Arg Lys Phe Met Thr Val Ser Gly Leu Pro Lys Lys Gln Cys
            65              70              75

Pro Cys Asp His Phe Lys Gly Asn Val Lys Lys Thr Arg His Gln
            80              85              90

Arg His His Arg Lys Pro Asn Lys His Ser Arg Ala Cys Gln Gln
            95              100             105

Phe Leu Lys Gln Cys Gln Leu Arg Ser Phe Ala Leu Pro Leu
            110             115
```

<210> 27
<211> 1371
<212> DNA
<213> Homo Sapien

<400> 27
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ggaagcacag ctcagagctg gtctgccatg gacatcctgg tcccactcct 100

gcagctgctg gtgctgcttc ttaccctgcc cctgcacctc atggctctgc 150

tgggctgctg gcagcccctg tgcaaaagct acttccccta cctgatggcc 200

gtgctgactc ccaagagcaa ccgcaagatg gagagcaaga aacgggagct 250

cttcagccag ataaaggggc ttacaggagc ctccgggaaa gtggccctac 300

tggagctggg ctgcggaacc ggagccaact ttcagttcta cccaccgggc 350

tgcagggtca cctgcctaga cccaaatccc cactttgaga agttcctgac 400

aaagagcatg gctgagaaca ggcacctcca atatgagcgg tttgtggtgg 450

ctcctggaga ggacatgaga cagctggctg atggctccat ggatgtggtg 500

gtctgcactc tggtgctgtg ctctgtgcag agcccaagga aggtcctgca 550

ggaggtccgg agagtactga gaccgggagg tgtgctcttt ttctgggagc 600

atgtggcaga accatatgga agctgggcct tcatgtggca gcaagttttc 650

gagcccacct ggaaacacat ggggatggc tgctgcctca ccagagagac 700
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ctggaaggat cttgagaacg cccagttctc cgaaatccaa atggaacgac 750

agccccctcc cttgaagtgg ctacctgttg ggccccacat catgggaaag 800

gctgtcaaac aatctttccc aagctccaag gcactcattt gctccttccc 850

cagcctccaa ttagaacaag ccacccacca gcctatctat cttccactga 900

gagggaccta gcagaatgag agaagacatt catgtaccac ctactagtcc 950

ctctctcccc aacctctgcc agggcaatct ctaacttcaa tcccgccttc 1000

gacagtgaaa aagctctact tctacgctga cccagggagg aaacactagg 1050

accctgttgt atcctcaact gcaagtttct ggactagtct cccaacgttt 1100

gcctcccaat gttgtccctt tccttcgttc ccatggtaaa gctcctctcg 1150

ctttcctcct gaggctacac ccatgcgtct ctaggaactg gtcacaaaag 1200

tcatggtgcc tgcatccctg ccaagccccc ctgaccctct ctccccacta 1250

ccaccttctt cctgagctgg gggcaccagg gagaatcaga gatgctgggg 1300

atgccagagc aagactcaaa gaggcagagg ttttgttctc aaatattttt 1350

taataaatag acgaaaccac g 1371
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<210> 28
<211> 277
<212> PRT
<213> Homo Sapien

<400> 28

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Met Asp Ile Leu Val Pro Leu Leu Gln Leu Leu Val Leu Leu Leu
1               5                   10                  15

Thr Leu Pro Leu His Leu Met Ala Leu Leu Gly Cys Trp Gln Pro
                20                  25                  30

Leu Cys Lys Ser Tyr Phe Pro Tyr Leu Met Ala Val Leu Thr Pro
                35                  40                  45

Lys Ser Asn Arg Lys Met Glu Ser Lys Lys Arg Glu Leu Phe Ser
                50                  55                  60

Gln Ile Lys Gly Leu Thr Gly Ala Ser Gly Lys Val Ala Leu Leu
                65                  70                  75

Glu Leu Gly Cys Gly Thr Gly Ala Asn Phe Gln Phe Tyr Pro Pro
                80                  85                  90

Gly Cys Arg Val Thr Cys Leu Asp Pro Asn Pro His Phe Glu Lys
                95                  100                 105

Phe Leu Thr Lys Ser Met Ala Glu Asn Arg His Leu Gln Tyr Glu
```

Arg Phe Val Val Ala Pro Gly Glu Asp Met Arg Gln Leu Ala Asp
                125   130   135

Gly Ser Met Asp Val Val Val Cys Thr Leu Val Leu Cys Ser Val
                140   145   150

Gln Ser Pro Arg Lys Val Leu Gln Glu Val Arg Arg Val Leu Arg
                155   160   165

Pro Gly Gly Val Leu Phe Phe Trp Glu His Val Ala Glu Pro Tyr
                170   175   180

Gly Ser Trp Ala Phe Met Trp Gln Gln Val Phe Glu Pro Thr Trp
                185   190   195

Lys His Ile Gly Asp Gly Cys Cys Leu Thr Arg Glu Thr Trp Lys
                200   205   210

Asp Leu Glu Asn Ala Gln Phe Ser Glu Ile Gln Met Glu Arg Gln
                215   220   225

Pro Pro Pro Leu Lys Trp Leu Pro Val Gly Pro His Ile Met Gly
                230   235   240

Lys Ala Val Lys Gln Ser Phe Pro Ser Ser Lys Ala Leu Ile Cys
                245   250   255

Ser Phe Pro Ser Leu Gln Leu Glu Gln Ala Thr His Gln Pro Ile
                260   265   270

Tyr Leu Pro Leu Arg Gly Thr
                275

<210> 29
<211> 494
<212> DNA
<213> Homo Sapien

<400> 29
 caatgtttgc ctatccacct cccccaagcc cctttaccta tgctgctgct 50

 aacgctgctg ctgctgctgc tgctgcttaa aggctcatgc ttggagtggg 100

 gactggtcgg tgcccagaaa gtctcttctg ccactgacgc ccccatcagg 150

 gattgggcct tctttccccc ttcctttctg tgtctcctgc ctcatcggcc 200

 tgccatgacc tgcagccaag cccagccccg tggggaaggg gagaaagtgg 250

 gggatggcta agaaagctgg gagatagggga acagaagagg gtagtgggtg 300

 ggctaggggg gctgccttat ttaaagtggt tgtttatgat tcttatacta 350

 atttatacaa agatattaag gccctgttca ttaagaaatt gttcccttcc 400

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cctgtgttca atgtttgtaa agattgttct gtgtaaatat gtctttataa 450

taaacagtta aaagctgaaa aaaaaaaaaa aaaaaaaaaa aaaa 494
```

<210> 30
<211> 73
<212> PRT
<213> Homo Sapien

<400> 30
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 Met Leu Leu Leu Thr Leu Leu Leu Leu Leu Leu Leu Leu Lys Gly
  1               5                  10                  15

 Ser Cys Leu Glu Trp Gly Leu Val Gly Ala Gln Lys Val Ser Ser
                 20                  25                  30

 Ala Thr Asp Ala Pro Ile Arg Asp Trp Ala Phe Phe Pro Pro Ser
                 35                  40                  45

 Phe Leu Cys Leu Leu Pro His Arg Pro Ala Met Thr Cys Ser Gln
                 50                  55                  60
 Ala Gln Pro Arg Gly Glu Gly Glu Lys Val Gly Asp Gly
                 65                  70
```

<210> 31
<211> 1660
<212> DNA
<213> Homo Sapien

<400> 31
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 cccaggctac cagttcctcc aagcaagtca tttcccttat ttaaccgatg 100

 tgtccctcaa acacctgagt gctactccct atttgcatct gttttgataa 150

 atgatgttga caccctccac cgaattctaa gtggaatcat gtcgggaaga 200

 gatacaatcc ttggcctgtg tatcctcgca ttagccttgt ctttggccat 250

 gatgtttacc ttcagattca tcaccaccct tctggttcac attttcattt 300

 cattggttat tttgggattg ttgtttgtct gcggtgtttt atggtggctg 350

 tattatgact ataccaacga cctcagcata gaattggaca cagaaaggga 400

 aaatatgaag tgcgtgctgg ggtttgctat cgtatccaca ggcatcacgg 450

 cagtgctgct cgtcttgatt tttgttctca gaaagagaat aaaattgaca 500

 gttgagcttt tccaaatcac aaataaagcc atcagcagtg ctcccttcct 550

 gctgttccag ccactgtgga catttgccat cctcattttc ttctgggtcc 600

 tctgggtggc tgtgctgctg agcctgggaa ctgcaggagc tgcccaggtt 650

 atggaaggcg gccaagtgga atataagccc ctttcgggca ttcggtacat 700
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gtggtcgtac catttaattg gcctcatctg gactagtgaa ttcatccttg 750

cgtgccagca aatgactata gctggggcag tggttacttg ttatttcaac 800

agaagtaaaa atgatcctcc tgatcatccc atcctttcgt ctctctccat 850

tctcttcttc taccatcaag gaaccgttgt gaaagggtca tttttaatct 900

ctgtggtgag gattccgaga atcattgtca tgtacatgca aaacgcactg 950

aaagaacagc agcatggtgc attgtccagg tacctgttcc gatgctgcta 1000

ctgctgtttc tggtgtcttg acaaatacct gctccatctc aaccagaatg 1050

catatactac aactgctatt aatgggacag atttctgtac atcagcaaaa 1100

gatgcattca aaatcttgtc caagaactca agtcacttta catctattaa 1150

ctgctttgga gacttcataa tttttctagg aaaggtgtta gtggtgtgtt 1200

tcactgtttt tggaggactc atggctttta actacaatcg ggcattccag 1250

gtgtgggcag tccctctgtt attggtagct ttttttgcct acttagtagc 1300
ccatagtttt ttatctgtgt ttgaaactgt gctggatgca cttttcctgt 1350

gttttgctgt tgatctggaa acaaatgatg gatcgtcaga aaagccctac 1400

tttatggatc aagaatttct gagtttcgta aaaaggagca caaattaaa 1450

caatgcaagg gcacagcagg acaagcactc attaaggaat gaggagggaa 1500

cagaactcca ggccattgtg agatagatac ccatttaggt atctgtacct 1550

ggaaaacatt tccttctaag agccatttac agaatagaag atgagaccac 1600

tagagaaaag ttagtgaatt ttttttttaaa agacctaata aaccctattc 1650

ttcctcaaaa 1660
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<210> 32
<211> 445
<212> PRT
<213> Homo Sapien

<400> 32

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Met Ser Gly Arg Asp Thr Ile Leu Gly Leu Cys Ile Leu Ala Leu
 1               5                  10                  15

Ala Leu Ser Leu Ala Met Met Phe Thr Phe Arg Phe Ile Thr Thr
                20                  25                  30

Leu Leu Val His Ile Phe Ile Ser Leu Val Ile Leu Gly Leu Leu
                35                  40                  45

Phe Val Cys Gly Val Leu Trp Trp Leu Tyr Tyr Asp Tyr Thr Asn
                50                  55                  60
```

Asp Leu Ser Ile Glu Leu Asp Thr Glu Arg Glu Asn Met Lys Cys
              65   70   75

Val Leu Gly Phe Ala Ile Val Ser Thr Gly Ile Thr Ala Val Leu
              80   85   90

Leu Val Leu Ile Phe Val Leu Arg Lys Arg Ile Lys Leu Thr Val
              95   100   105

Glu Leu Phe Gln Ile Thr Asn Lys Ala Ile Ser Ser Ala Pro Phe
              110   115   120

Leu Leu Phe Gln Pro Leu Trp Thr Phe Ala Ile Leu Ile Phe Phe
              125   130   135

Trp Val Leu Trp Val Ala Val Leu Leu Ser Leu Gly Thr Ala Gly
              140   145   150

Ala Ala Gln Val Met Glu Gly Gly Gln Val Glu Tyr Lys Pro Leu
              155   160   165

Ser Gly Ile Arg Tyr Met Trp Ser Tyr His Leu Ile Gly Leu Ile
              170   175   180

Trp Thr Ser Glu Phe Ile Leu Ala Cys Gln Gln Met Thr Ile Ala
              185   190   195
Gly Ala Val Val Thr Cys Tyr Phe Asn Arg Ser Lys Asn Asp Pro
              200   205   210

Pro Asp His Pro Ile Leu Ser Ser Leu Ser Ile Leu Phe Phe Tyr
              215   220   225

His Gln Gly Thr Val Val Lys Gly Ser Phe Leu Ile Ser Val Val
              230   235   240

Arg Ile Pro Arg Ile Ile Val Met Tyr Met Gln Asn Ala Leu Lys
              245   250   255

Glu Gln Gln His Gly Ala Leu Ser Arg Tyr Leu Phe Arg Cys Cys
              260   265   270

Tyr Cys Cys Phe Trp Cys Leu Asp Lys Tyr Leu Leu His Leu Asn
              275   280   285

Gln Asn Ala Tyr Thr Thr Thr Ala Ile Asn Gly Thr Asp Phe Cys
              290   295   300

Thr Ser Ala Lys Asp Ala Phe Lys Ile Leu Ser Lys Asn Ser Ser
              305   310   315

His Phe Thr Ser Ile Asn Cys Phe Gly Asp Phe Ile Ile Phe Leu
              320   325   330

Gly Lys Val Leu Val Val Cys Phe Thr Val Phe Gly Gly Leu Met
              335   340   345

```
Ala Phe Asn Tyr Asn Arg Ala Phe Gln Val Trp Ala Val Pro Leu
            350                 355                 360

Leu Leu Val Ala Phe Phe Ala Tyr Leu Val Ala His Ser Phe Leu
            365                 370                 375

Ser Val Phe Glu Thr Val Leu Asp Ala Leu Phe Leu Cys Phe Ala
            380                 385         .         390

Val Asp Leu Glu Thr Asn Asp Gly Ser Ser Glu Lys Pro Tyr Phe
            395                 400                 405

Met Asp Gln Glu Phe Leu Ser Phe Val Lys Arg Ser Asn Lys Leu
            410                 415                 420

Asn Asn Ala Arg Ala Gln Gln Asp Lys His Ser Leu Arg Asn Glu
            425                 430                 435

Glu Gly Thr Glu Leu Gln Ala Ile Val Arg
            440                 445
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<210> 33
<211> 2773
<212> DNA
<213> Homo Sapien

<400> 33
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 aagggaaaaa gaatattcat tctgtgtggt gaaaattttt tgaaaaaaaa 150

 attgccttct tcaaacaagg gtgtcattct gatatttatg aggactgttg 200

 ttctcactat gaaggcatct gttattgaaa tgttccttgt tttgctggtg 250

 actggagtac attcaaacaa agaaacggca aagaagatta aaaggcccaa 300

 gttcactgtg cctcagatca actgcgatgt caaagccgga aagatcatcg 350

 atcctgagtt cattgtgaaa tgtccagcag gatgccaaga ccccaaatac 400

 catgtttatg cactgacgt gtatgcatcc tactccagtg tgtgtggcgc 450

 tgccgtacac agtggtgtgc ttgataattc aggagggaaa atacttgttc 500

 ggaaggttgc tggacagtct ggttacaaag ggagttattc caacggtgtc 550

 caatcgttat ccctaccacg atggagagaa tcctttatcg tcttagaaag 600

 taaacccaaa aagggtgtaa cctacccatc agctcttaca tactcatcat 650

 cgaaaagtcc agctgcccaa gcaggtgaga ccacaaaagc ctatcagagg 700

 ccacctattc cagggacaac tgcacagccg gtcactctga tgcagcttct 750

 ggctgtcact gtagctgtgg ccacccccac caccttgcca aggccatccc 800
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cttctgctgc ttctaccacc agcatcccca gaccacaatc agtgggccac 850

aggagccagg agatggatct ctggtccact gccacctaca caagcagcca 900

aaacaggccc agagctgatc caggtatcca aaggcaagat ccttcaggag 950

ctgccttcca gaaacctgtt ggagcggatg tcagcctggg acttgttcca 1000

aaagaagaat tgagcacaca gtctttggag ccagtatccc tgggagatcc 1050

aaactgcaaa attgacttgt cgtttttaat tgatgggagc accagcattg 1100

gcaaacggcg attccgaatc cagaagcagc tcctggctga tgttgcccaa 1150

gctcttgaca ttggccctgc cggtccactg atgggtgttg tccagtatgg 1200

agacaaccct gctactcact ttaacctcaa gacacacacg aattctcgag 1250

atctgaagac agccatagag aaaattactc agagaggagg actttctaat 1300

gtaggtcggg ccatctcctt tgtgaccaag aacttctttt ccaaagccaa 1350

tggaaacaga agcgggggctc ccaatgtggt ggtggtgatg gtggatggct 1400

ggcccacgga caaagtggag gaggcttcaa gacttgcgag agagtcagga 1450

atcaacattt tcttcatcac cattgaaggt gctgctgaaa atgagaagca 1500

gtatgtggtg gagcccaact ttgcaaacaa ggccgtgtgc agaacaaacg 1550

gcttctactc gctccacgtg cagagctggt ttggcctcca caagaccctg 1600

cagcctctgg tgaagcgggt ctgcgacact gaccgcctgg cctgcagcaa 1650

gacctgcttg aactcggctg acattggctt cgtcatcgac ggctccagca 1700

gtgtggggac gggcaacttc cgcaccgtcc tccagtttgt gaccaacctc 1750

accaaagagt ttgagatttc cgacacggac acgcgcatcg gggccgtgca 1800

gtacacctac gaacagcggc tggagtttgg gttcgacaag tacagcagca 1850

agcctgacat cctcaacgcc atcaagaggg tgggctactg gagtggtggc 1900

accagcacgg gggctgccat caacttcgcc ctggagcagc tcttcaagaa 1950

gtccaagccc aacaagagga agttaatgat cctcatcacc gacgggaggt 2000

cctacgacga cgtccggatc ccagccatgg ctgcccatct gaagggagtg 2050

atcacctatg cgataggcgt tgcctgggct gcccaagagg agctagaagt 2100

cattgccact caccccgcca gagaccactc cttctttgtg gacgagtttg 2150

acaacctcca tcagtatgtc cccaggatca tccagaacat ttgtacagag 2200
```

```
ttcaactcac agcctcggaa ctgaattcag agcaggcaga gcaccagcaa 2250

gtgctgcttt actaactgac gtgttggacc accccaccgc ttaatggggc 2300

acgcacggtg catcaagtct tgggcagggc atggagaaac aaatgtcttg 2350

ttattattct ttgccatcat gcttttcat attccaaaac ttggagttac 2400

aaagatgatc acaaacgtat agaatgagcc aaaaggctac atcatgttga 2450

gggtgctgga gattttacat tttgacaatt gttttcaaaa taaatgttcg 2500

gaatacagtg cagcccttac gacaggctta cgtagagctt ttgtgagatt 2550

tttaagttgt tatttctgat ttgaactctg taaccctcag caagtttcat 2600

ttttgtcatg acaatgtagg aattgctgaa ttaaatgttt agaaggatga 2650

aaaataaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2700

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2750

aaaaaaaaaa aaaaaaaaaa aag 2773
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<210> 34
<211> 678
<212> PRT
<213> Homo Sapien

<400> 34

```
Met Arg Thr Val Val Leu Thr Met Lys Ala Ser Val Ile Glu Met
 1               5                  10                  15

Phe Leu Val Leu Leu Val Thr Gly Val His Ser Asn Lys Glu Thr
                20                  25                  30

Ala Lys Lys Ile Lys Arg Pro Lys Phe Thr Val Pro Gln Ile Asn
                35                  40                  45

Cys Asp Val Lys Ala Gly Lys Ile Ile Asp Pro Glu Phe Ile Val
                50                  55                  60

Lys Cys Pro Ala Gly Cys Gln Asp Pro Lys Tyr His Val Tyr Gly
                65                  70                  75

Thr Asp Val Tyr Ala Ser Tyr Ser Ser Val Cys Gly Ala Ala Val
                80                  85                  90

His Ser Gly Val Leu Asp Asn Ser Gly Gly Lys Ile Leu Val Arg
                95                  100                 105

Lys Val Ala Gly Gln Ser Gly Tyr Lys Gly Ser Tyr Ser Asn Gly
                110                 115                 120

Val Gln Ser Leu Ser Leu Pro Arg Trp Arg Glu Ser Phe Ile Val
                125                 130                 135
```

Leu Glu Ser Lys Pro Lys Lys Gly Val Thr Tyr Pro Ser Ala Leu
            140   145   150

Thr Tyr Ser Ser Ser Lys Ser Pro Ala Ala Gln Ala Gly Glu Thr
            155   160   165

Thr Lys Ala Tyr Gln Arg Pro Pro Ile Pro Gly Thr Thr Ala Gln
            170   175   180

Pro Val Thr Leu Met Gln Leu Leu Ala Val Thr Val Ala Val Ala
            185   190   195

Thr Pro Thr Thr Leu Pro Arg Pro Ser Pro Ser Ala Ala Ser Thr
            200   205   210

Thr Ser Ile Pro Arg Pro Gln Ser Val Gly His Arg Ser Gln Glu
            215   220   225

Met Asp Leu Trp Ser Thr Ala Thr Tyr Thr Ser Ser Gln Asn Arg
            230   235   240

Pro Arg Ala Asp Pro Gly Ile Gln Arg Gln Asp Pro Ser Gly Ala
            245   250   255

Ala Phe Gln Lys Pro Val Gly Ala Asp Val Ser Leu Gly Leu Val
            260   265   270

Pro Lys Glu Glu Leu Ser Thr Gln Ser Leu Glu Pro Val Ser Leu
            275   280   285

Gly Asp Pro Asn Cys Lys Ile Asp Leu Ser Phe Leu Ile Asp Gly
            290   295   300

Ser Thr Ser Ile Gly Lys Arg Arg Phe Arg Ile Gln Lys Gln Leu
            305   310   315

Leu Ala Asp Val Ala Gln Ala Leu Asp Ile Gly Pro Ala Gly Pro
            320   325   330

Leu Met Gly Val Val Gln Tyr Gly Asp Asn Pro Ala Thr His Phe
            335   340   345

Asn Leu Lys Thr His Thr Asn Ser Arg Asp Leu Lys Thr Ala Ile
            350   355   360

Glu Lys Ile Thr Gln Arg Gly Gly Leu Ser Asn Val Gly Arg Ala
            365   370   375

Ile Ser Phe Val Thr Lys Asn Phe Phe Ser Lys Ala Asn Gly Asn
            380   385   390

Arg Ser Gly Ala Pro Asn Val Val Val Met Val Asp Gly Trp
            395   400   405

Pro Thr Asp Lys Val Glu Glu Ala Ser Arg Leu Ala Arg Glu Ser
            410   415   420

```
Gly Ile Asn Ile Phe Phe Ile Thr Ile Glu Gly Ala Ala Glu Asn
            425                 430                 435

Glu Lys Gln Tyr Val Val Glu Pro Asn Phe Ala Asn Lys Ala Val
            440                 445                 450

Cys Arg Thr Asn Gly Phe Tyr Ser Leu His Val Gln Ser Trp Phe
            455                 460                 465

Gly Leu His Lys Thr Leu Gln Pro Leu Val Lys Arg Val Cys Asp
            470                 475                 480

Thr Asp Arg Leu Ala Cys Ser Lys Thr Cys Leu Asn Ser Ala Asp
            485                 490                 495

Ile Gly Phe Val Ile Asp Gly Ser Ser Ser Val Gly Thr Gly Asn
            500                 505                 510

Phe Arg Thr Val Leu Gln Phe Val Thr Asn Leu Thr Lys Glu Phe
            515                 520                 525

Glu Ile Ser Asp Thr Asp Thr Arg Ile Gly Ala Val Gln Tyr Thr
            530                 535                 540

Tyr Glu Gln Arg Leu Glu Phe Gly Phe Asp Lys Tyr Ser Ser Lys
            545                 550                 555

Pro Asp Ile Leu Asn Ala Ile Lys Arg Val Gly Tyr Trp Ser Gly
            560                 565                 570

Gly Thr Ser Thr Gly Ala Ala Ile Asn Phe Ala Leu Glu Gln Leu
            575                 580                 585

Phe Lys Lys Ser Lys Pro Asn Lys Arg Lys Leu Met Ile Leu Ile
            590                 595                 600

Thr Asp Gly Arg Ser Tyr Asp Asp Val Arg Ile Pro Ala Met Ala
            605                 610                 615

Ala His Leu Lys Gly Val Ile Thr Tyr Ala Ile Gly Val Ala Trp
            620                 625                 630

Ala Ala Gln Glu Glu Leu Glu Val Ile Ala Thr His Pro Ala Arg
            635                 640                 645

Asp His Ser Phe Phe Val Asp Glu Phe Asp Asn Leu His Gln Tyr
            650                 655                 660

Val Pro Arg Ile Ile Gln Asn Ile Cys Thr Glu Phe Asn Ser Gln
            665                 670                 675

Pro Arg Asn
```

<210> 35
<211> 2095
<212> DNA

<400> 35

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ccgagcacag gagattgcct gcgtttagga ggtggctgcg ttgtgggaaa 50

agctatcaag gaagaaattg ccaaaccatg tcttttttttc tgttttcaga 100

gtagttcaca acagatctga gtgttttaat taagcatgga atacagaaaa 150

caacaaaaaa cttaagcttt aatttcatct ggaattccac agttttctta 200

gctccctgga cccggttgac ctgttggctc ttcccgctgg ctgctctatc 250

acgtggtgct ctccgactac tcaccccgag tgtaaagaac cttcggctcg 300

cgtgcttctg agctgctgtg gatggcctcg gctctctgga ctgtccttcc 350

gagtaggatg tcactgagat ccctcaaatg gagcctcctg ctgctgtcac 400

tcctgagttt ctttgtgatg tggtacctca gccttcccca ctacaatgtg 450

atagaacgcg tgaactggat gtacttctat gagtatgagc cgatttacag 500

acaagacttt cacttcacac ttcgagagca ttcaaactgc tctcatcaaa 550

atccatttct ggtcattctg gtgacctccc acccttcaga tgtgaaagcc 600

aggcaggcca ttagagttac ttggggtgaa aaaaagtctt ggtggggata 650

tgaggttctt acatttttct tattaggcca agaggctgaa aaggaagaca 700

aaatgttggc attgtcctta gaggatgaac accttctttta tggtgacata 750

atccgacaag attttttaga cacatataat aacctgacct tgaaaaccat 800

tatggcattc aggtgggtaa ctgagttttg ccccaatgcc aagtacgtaa 850

tgaagacaga cactgatgtt ttcatcaata ctggcaattt agtgaagtat 900

cttttaaacc taaaccactc agagaagttt ttcacaggtt atcctctaat 950

tgataattat tcctatagag gattttacca aaaaacccat atttcttacc 1000

aggagtatcc tttcaaggtg ttccctccat actgcagtgg gttgggttat 1050

ataatgtcca gagatttggt gccaaggatc tatgaaatga tgggtcacgt 1100

aaaacccatc aagtttgaag atgtttatgt cgggatctgt ttgaatttat 1150

taaaagtgaa cattcatatt ccagaagaca caaatctttt ctttctatat 1200

agaatccatt tggatgtctg tcaactgaga cgtgtgattg cagcccatgg 1250

cttttcttcc aaggagatca tcacttttttg gcaggtcatg ctaaggaaca 1300

ccacatgcca ttattaactt cacattctac aaaaagccta gaaggacagg 1350
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ataccttgtg gaaagtgtta aataaagtag gtactgtgga aaattcatgg 1400

ggaggtcagt gtgctggctt acactgaact gaaactcatg aaaaacccag 1450

actggagact ggagggttac acttgtgatt tattagtcag gcccttcaaa 1500

gatgatatgt ggaggaatta aatataaagg aattggaggt ttttgctaaa 1550

gaaattaata ggaccaaaca atttggacat gtcattctgt agactagaat 1600

ttcttaaaag ggtgttactg agttataagc tcactaggct gtaaaaacaa 1650

aacaatgtag agttttattt attgaacaat gtagtcactt gaaggttttg 1700

tgtatatctt atgtggatta ccaatttaaa aatatatgta gttctgtgtc 1750

aaaaaacttc ttcactgaag ttatactgaa caaaatttta cctgtttttg 1800

gtcatttata aagtacttca agatgttgca gtatttcaca gttattatta 1850

tttaaaatta cttcaacttt gtgtttttaa atgttttgac gatttcaata 1900

caagataaaa aggatagtga atcattcttt acatgcaaac attttccagt 1950

tacttaactg atcagtttat tattgataca tcactccatt aatgtaaagt 2000

cataggtcat tattgcatat cagtaatctc ttggactttg ttaaatattt 2050

tactgtggta atatagagaa gaattaaagc aagaaaatct gaaaa 2095
```

<210> 36
<211> 331
<212> PRT
<213> Homo Sapien

<400> 36

```
Met Ala Ser Ala Leu Trp Thr Val Leu Pro Ser Arg Met Ser Leu
 1               5                  10                  15

Arg Ser Leu Lys Trp Ser Leu Leu Leu Ser Leu Leu Ser Phe
                20                  25                  30

Phe Val Met Trp Tyr Leu Ser Leu Pro His Tyr Asn Val Ile Glu
                35                  40                  45

Arg Val Asn Trp Met Tyr Phe Tyr Glu Tyr Glu Pro Ile Tyr Arg
                50                  55                  60

Gln Asp Phe His Phe Thr Leu Arg Glu His Ser Asn Cys Ser His
                65                  70                  75

Gln Asn Pro Phe Leu Val Ile Leu Val Thr Ser His Pro Ser Asp
                80                  85                  90

Val Lys Ala Arg Gln Ala Ile Arg Val Thr Trp Gly Glu Lys Lys
                95                  100                 105
```

```
Ser Trp Trp Gly Tyr Glu Val Leu Thr Phe Phe Leu Leu Gly Gln
             110                     115                     120

Glu Ala Glu Lys Glu Asp Lys Met Leu Ala Leu Ser Leu Glu Asp
             125                     130                     135

Glu His Leu Leu Tyr Gly Asp Ile Ile Arg Gln Asp Phe Leu Asp
             140                     145                     150

Thr Tyr Asn Asn Leu Thr Leu Lys Thr Ile Met Ala Phe Arg Trp
             155                     160                     165

Val Thr Glu Phe Cys Pro Asn Ala Lys Tyr Val Met Lys Thr Asp
             170                     175                     180

Thr Asp Val Phe Ile Asn Thr Gly Asn Leu Val Lys Tyr Leu Leu
             185                     190                     195

Asn Leu Asn His Ser Glu Lys Phe Phe Thr Gly Tyr Pro Leu Ile
             200                     205                     210

Asp Asn Tyr Ser Tyr Arg Gly Phe Tyr Gln Lys Thr His Ile Ser
             215                     220                     225

Tyr Gln Glu Tyr Pro Phe Lys Val Phe Pro Pro Tyr Cys Ser Gly
             230                     235                     240

Leu Gly Tyr Ile Met Ser Arg Asp Leu Val Pro Arg Ile Tyr Glu
             245                     250                     255

Met Met Gly His Val Lys Pro Ile Lys Phe Glu Asp Val Tyr Val
             260                     265                     270

Gly Ile Cys Leu Asn Leu Leu Lys Val Asn Ile His Ile Pro Glu
             275                     280                     285

Asp Thr Asn Leu Phe Phe Leu Tyr Arg Ile His Leu Asp Val Cys
             290                     295                     300

Gln Leu Arg Arg Val Ile Ala Ala His Gly Phe Ser Ser Lys Glu
             305                     310                     315

Ile Ile Thr Phe Trp Gln Val Met Leu Arg Asn Thr Thr Cys His
             320                     325                     330

Tyr
```

<210> 37
<211> 2846
<212> DNA
<213> Homo Sapien

<400> 37
cgctcgggca ccagccgcgg caaggatgga gctgggttgc tggacgcagt 50

tggggctcac ttttcttcag ctccttctca tctcgtcctt gccaagagag 100

```
tacacagtca ttaatgaagc ctgccctgga gcagagtgga atatcatgtg 150

tcgggagtgc tgtgaatatg atcagattga gtgcgtctgc cccggaaaga 200

gggaagtcgt gggttatacc atcccttgct gcaggaatga ggagaatgag 250

tgtgactcct gcctgatcca cccaggttgt accatctttg aaaactgcaa 300

gagctgccga aatggctcat ggggggggtac cttggatgac ttctatgtga 350

aggggttcta ctgtgcagag tgccgagcag gctggtacgg aggagactgc 400

atgcgatgtg gccaggttct gcgagcccca aagggtcaga ttttgttgga 450

aagctatccc ctaaatgctc actgtgaatg gaccattcat gctaaacctg 500

ggtttgtcat ccaactaaga tttgtcatgt tgagtctgga gtttgactac 550

atgtgccagt atgactatgt tgaggttcgt gatggagaca accgcgatgg 600

ccagatcatc aagcgtgtct gtggcaacga gcggccagct cctatccaga 650

gcataggatc ctcactccac gtcctcttcc actccgatgg ctccaagaat 700

tttgacggtt tccatgccat ttatgaggag atcacagcat gctcctcatc 750

cccttgtttc catgacggca cgtgcgtcct tgacaaggct ggatcttaca 800

agtgtgcctg cttggcaggc tatactgggc agcgctgtga aaatctcctt 850

gaagaaagaa actgctcaga ccctgggggc ccagtcaatg ggtaccagaa 900

aataacaggg ggccctgggc ttatcaacgg acgccatgct aaaattggca 950

ccgtggtgtc tttcttttgt aacaactcct atgttcttag tggcaatgag 1000

aaaagaactt gccagcagaa tggagagtgg tcagggaaac agcccatctg 1050

cataaaagcc tgccgagaac caaagatttc agacctggtg agaaggagag 1100

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aggaggacat gtctgaggac tgggaagtgg agtgggcggg caccatcctg 1350

catccctatc tgcgggaaaa ttgagaacat cactgctcca aagacccaag 1400

ggttgcgctg ccgtggcag gcagccatct acaggaggac cagcggggtg 1450
catgacggca gcctacacaa gggagcgtgg ttcctagtct gcagcggtgc 1500

cctggtgaat gagcgcactg tggtggtggc tgcccactgt gttactgacc 1550
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tggggaaggt caccatgatc aagacagcag acctgaaagt tgttttgggg 1600

aaattctacc gggatgatga ccgggatgag aagaccatcc agagcctaca 1650

gatttctgct atcattctgc atcccaacta tgaccccatc ctgcttgatg 1700

ctgacatcgc catcctgaag ctcctagaca aggcccgtat cagcacccga 1750

gtccagccca tctgcctcgc tgccagtcgg gatctcagca cttccttcca 1800

ggagtcccac atcactgtgg ctggctggaa tgtcctggca gacgtgagga 1850

gccctggctt caagaacgac acactgcgct ctggggtggt cagtgtggtg 1900

gactcgctgc tgtgtgagga gcagcatgag gaccatggca tcccagtgag 1950

tgtcactgat aacatgttct gtgccagctg ggaacccact gccccttctg 2000

atatctgcac tgcagagaca ggaggcatcg cggctgtgtc cttcccggga 2050

cgagcatctc ctgagccacg ctggcatctg atgggactgg tcagctggag 2100

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gaatgccatc agcttgacca gggaagatct gggcttcatg aggccccttt 2550

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gagctgggat gtggtgcatg cctttgtgta catggccaca gtacagtctg 2650

gtccttttcc ttccccatct cttgtacaca ttttaataaa ataagggttg 2700

gcttctgaac tacaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2750

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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2846
```

<210> 38
<211> 720
<212> PRT
<213> Homo Sapien

<400> 38

```
Met Glu Leu Gly Cys Trp Thr Gln Leu Gly Leu Thr Phe Leu Gln
1               5                   10                  15

Leu Leu Leu Ile Ser Ser Leu Pro Arg Glu Tyr Thr Val Ile Asn
                20                  25                  30

Glu Ala Cys Pro Gly Ala Glu Trp Asn Ile Met Cys Arg Glu Cys
                35                  40                  45

Cys Glu Tyr Asp Gln Ile Glu Cys Val Cys Pro Gly Lys Arg Glu
                50                  55                  60

Val Val Gly Tyr Thr Ile Pro Cys Cys Arg Asn Glu Glu Asn Glu
                65                  70                  75

Cys Asp Ser Cys Leu Ile His Pro Gly Cys Thr Ile Phe Glu Asn
                80                  85                  90

Cys Lys Ser Cys Arg Asn Gly Ser Trp Gly Gly Thr Leu Asp Asp
                95                  100                 105

Phe Tyr Val Lys Gly Phe Tyr Cys Ala Glu Cys Arg Ala Gly Trp
                110                 115                 120

Tyr Gly Gly Asp Cys Met Arg Cys Gly Gln Val Leu Arg Ala Pro
                125                 130                 135

Lys Gly Gln Ile Leu Leu Glu Ser Tyr Pro Leu Asn Ala His Cys
                140                 145                 150

Glu Trp Thr Ile His Ala Lys Pro Gly Phe Val Ile Gln Leu Arg
                155                 160                 165

Phe Val Met Leu Ser Leu Glu Phe Asp Tyr Met Cys Gln Tyr Asp
                170                 175                 180

Tyr Val Glu Val Arg Asp Gly Asp Asn Arg Asp Gly Gln Ile Ile
                185                 190                 195

Lys Arg Val Cys Gly Asn Glu Arg Pro Ala Pro Ile Gln Ser Ile
                200                 205                 210

Gly Ser Ser Leu His Val Leu Phe His Ser Asp Gly Ser Lys Asn
                215                 220                 225

Phe Asp Gly Phe His Ala Ile Tyr Glu Glu Ile Thr Ala Cys Ser
                230                 235                 240

Ser Ser Pro Cys Phe His Asp Gly Thr Cys Val Leu Asp Lys Ala
                245                 250                 255

Gly Ser Tyr Lys Cys Ala Cys Leu Ala Gly Tyr Thr Gly Gln Arg
                260                 265                 270

Cys Glu Asn Leu Leu Glu Glu Arg Asn Cys Ser Asp Pro Gly Gly
                275                 280                 285
```

```
Pro Val Asn Gly Tyr Gln Lys Ile Thr Gly Gly Pro Gly Leu Ile
            290                 295                 300
Asn Gly Arg His Ala Lys Ile Gly Thr Val Val Ser Phe Phe Cys
            305                 310                 315

Asn Asn Ser Tyr Val Leu Ser Gly Asn Glu Lys Arg Thr Cys Gln
            320                 325                 330

Gln Asn Gly Glu Trp Ser Gly Lys Gln Pro Ile Cys Ile Lys Ala
            335                 340                 345

Cys Arg Glu Pro Lys Ile Ser Asp Leu Val Arg Arg Arg Val Leu
            350                 355                 360

Pro Met Gln Val Gln Ser Arg Glu Thr Pro Leu His Gln Leu Tyr
            365                 370                 375

Ser Ala Ala Phe Ser Lys Gln Lys Leu Gln Ser Ala Pro Thr Lys
            380                 385                 390

Lys Pro Ala Leu Pro Phe Gly Asp Leu Pro Met Gly Tyr Gln His
            395                 400                 405

Leu His Thr Gln Leu Gln Tyr Glu Cys Ile Ser Pro Phe Tyr Arg
            410                 415                 420

Arg Leu Gly Ser Ser Arg Arg Thr Cys Leu Arg Thr Gly Lys Trp
            425                 430                 435

Ser Gly Arg Ala Pro Ser Cys Ile Pro Ile Cys Gly Lys Ile Glu
            440                 445                 450

Asn Ile Thr Ala Pro Lys Thr Gln Gly Leu Arg Trp Pro Trp Gln
            455                 460                 465

Ala Ala Ile Tyr Arg Arg Thr Ser Gly Val His Asp Gly Ser Leu
            470                 475                 480

His Lys Gly Ala Trp Phe Leu Val Cys Ser Gly Ala Leu Val Asn
            485                 490                 495

Glu Arg Thr Val Val Val Ala Ala His Cys Val Thr Asp Leu Gly
            500                 505                 510

Lys Val Thr Met Ile Lys Thr Ala Asp Leu Lys Val Val Leu Gly
            515                 520                 525

Lys Phe Tyr Arg Asp Asp Asp Arg Asp Glu Lys Thr Ile Gln Ser
            530                 535                 540

Leu Gln Ile Ser Ala Ile Ile Leu His Pro Asn Tyr Asp Pro Ile
            545                 550                 555

Leu Leu Asp Ala Asp Ile Ala Ile Leu Lys Leu Leu Asp Lys Ala
            560                 565                 570
```

```
Arg Ile Ser Thr Arg Val Gln Pro Ile Cys Leu Ala Ala Ser Arg
            575               580               585

Asp Leu Ser Thr Ser Phe Gln Glu Ser His Ile Thr Val Ala Gly
            590               595               600

Trp Asn Val Leu Ala Asp Val Arg Ser Pro Gly Phe Lys Asn Asp
            605               610               615

Thr Leu Arg Ser Gly Val Val Ser Val Val Asp Ser Leu Leu Cys
            620               625               630

Glu Glu Gln His Glu Asp His Gly Ile Pro Val Ser Val Thr Asp
            635               640               645

Asn Met Phe Cys Ala Ser Trp Glu Pro Thr Ala Pro Ser Asp Ile
            650               655               660

Cys Thr Ala Glu Thr Gly Gly Ile Ala Ala Val Ser Phe Pro Gly
            665               670               675

Arg Ala Ser Pro Glu Pro Arg Trp His Leu Met Gly Leu Val Ser
            680               685               690

Trp Ser Tyr Asp Lys Thr Cys Ser His Arg Leu Ser Thr Ala Phe
            695               700               705

Thr Lys Val Leu Pro Phe Lys Asp Trp Ile Glu Arg Asn Met Lys
            710               715               720
```

<210> 39
<211> 2571
<212> DNA
<213> Homo Sapien

<400> 39
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 ggttcctaca tcctctcatc tgagaatcag agagcataat cttcttacgg 50

 gcccgtgatt tattaacgtg gcttaatctg aaggttctca gtcaaattct 100

 ttgtgatcta ctgattgtgg gggcatggca aggtttgctt aaaggagctt 150

 ggctggtttg ggcccttgta gctgacagaa ggtggccagg gagaatgcag 200

 cacactgctc ggagaatgaa ggcgcttctg ttgctggtct tgccttggct 250

 cagtcctgct aactacattg acaatgtggg caacctgcac ttcctgtatt 300

 cagaactctg taaaggtgcc tcccactacg gcctgaccaa agataggaag 350

 aggcgctcac aagatggctg tccagacggc tgtgcgagcc tcacagccac 400

 ggctccctcc ccagaggttt ctgcagctgc caccatctcc ttaatgacag 450

 acgagcctgg cctagacaac cctgcctacg tgtcctcggc agaggacggg 500

 cagccagcaa tcagcccagt ggactctggc cggagcaacc gaactagggc 550
```

```
acggcccttt gagagatcca ctattagaag cagatcattt aaaaaaataa 600

atcgagcttt gagtgttctt cgaaggacaa agagcgggag tgcagttgcc 650

aaccatgccg accagggcag ggaaaattct gaaaacacca ctgcccctga 700

agtctttcca aggttgtacc acctgattcc agatggtgaa attaccagca 750

tcaagatcaa tcgagtagat cccagtgaaa gcctctctat taggctggtg 800

ggaggtagcg aaaccccact ggtccatatc attatccaac acatttatcg 850

tgatggggtg atcgccagag acggccggct actgccagga gacatcattc 900

taaaggtcaa cgggatggac atcagcaatg tccctcacaa ctacgctgtg 950

cgtctcctgc ggcagccctg ccaggtgctg tggctgactg tgatgcgtga 1000

acagaagttc cgcagcagga acaatggaca ggccccggat gcctacagac 1050

cccgagatga cagctttcat gtgattctca caaaagtag ccccgaggag 1100

cagcttggaa taaaactggt gcgcaaggtg gatgagcctg gggtttttcat 1150

cttcaatgtg ctggatggcg gtgtggcata tcgacatggt cagcttgagg 1200

agaatgaccg tgtgttagcc atcaatggac atgatcttcg atatggcagc 1250

ccagaaagtg cggctcatct gattcaggcc agtgaaagac gtgttcacct 1300

cgtcgtgtcc cgccaggttc ggcagcggag ccctgacatc tttcaggaag 1350

ccggctggaa cagcaatggc agctggtccc cagggccagg ggagaggagc 1400

aacactccca agcccctcca tcctacaatt acttgtcatg agaaggtggt 1450

aaatatccaa aaagaccccg gtgaatctct cggcatgacc gtcgcagggg 1500

gagcatcaca tagagaatgg gatttgccta tctatgtcat cagtgttgag 1550

cccggaggag tcataagcag agatggaaga ataaaaacag gtgacatttt 1600

gttgaatgtg gatggggtcg aactgacaga ggtcagccgg agtgaggcag 1650

tggcattatt gaaaagaaca tcatcctcga tagtactcaa agctttggaa 1700

gtcaaagagt atgagcccca ggaagactgc agcagcccag cagccctgga 1750

ctccaaccac aacatggccc cacccagtga ctggtcccca tcctgggtca 1800

tgtggctgga attaccacgg tgcttgtata actgtaaaga tattgtatta 1850

cgaagaaaca cagctggaag tctgggcttc tgcattgtag gaggttatga 1900

agaatacaat ggaaacaaac ctttttcat caaatccatt gttgaaggaa 1950
```

```
caccagcata caatgatgga agaattagat gtggtgatat tcttcttgct 2000

gtcaatggta gaagtacatc aggaatgata catgcttgct tggcaagact 2050

gctgaaagaa cttaaaggaa gaattactct aactattgtt tcttggcctg 2100

gcactttttt atagaatcaa tgatgggtca gaggaaaaca gaaaaatcac 2150

aaataggcta agaagttgaa acactatatt tatcttgtca gtttttatat 2200

ttaaagaaag aatacattgt aaaaatgtca ggaaaagtat gatcatctaa 2250

tgaaagccag ttacacctca gaaaatatga ttccaaaaaa attaaaacta 2300

ctagtttttt ttcagtgtgg aggatttctc attactctac aacattgttt 2350

atatttttc tattcaataa aaagccctaa aacaactaaa atgattgatt 2400

tgtatacccc actgaattca agctgattta aatttaaaat ttggtatatg 2450

ctgaagtctg ccaagggtac attatggcca tttttaattt acagctaaaa 2500

tatttttaa aatgcattgc tgagaaacgt tgctttcatc aaacaagaat 2550

aaatattttt cagaagttaa a 2571
```

<210> 40
<211> 632
<212> PRT
<213> Homo Sapien

<400> 40

```
Met Lys Ala Leu Leu Leu Val Leu Pro Trp Leu Ser Pro Ala
 1               5                  10                  15

Asn Tyr Ile Asp Asn Val Gly Asn Leu His Phe Leu Tyr Ser Glu
                20                  25                  30

Leu Cys Lys Gly Ala Ser His Tyr Gly Leu Thr Lys Asp Arg Lys
                35                  40                  45

Arg Arg Ser Gln Asp Gly Cys Pro Asp Gly Cys Ala Ser Leu Thr
                50                  55                  60

Ala Thr Ala Pro Ser Pro Glu Val Ser Ala Ala Thr Ile Ser
                65                  70                  75

Leu Met Thr Asp Glu Pro Gly Leu Asp Asn Pro Ala Tyr Val Ser
                80                  85                  90

Ser Ala Glu Asp Gly Gln Pro Ala Ile Ser Pro Val Asp Ser Gly
                95                  100                 105

Arg Ser Asn Arg Thr Arg Ala Arg Pro Phe Glu Arg Ser Thr Ile
                110                 115                 120

Arg Ser Arg Ser Phe Lys Lys Ile Asn Arg Ala Leu Ser Val Leu
```

```
                  125                      130                      135
Arg Arg Thr Lys Ser Gly Ser Ala Val Ala Asn His Ala Asp Gln
                140                      145                      150

Gly Arg Glu Asn Ser Glu Asn Thr Thr Ala Pro Glu Val Phe Pro
                155                      160                      165

Arg Leu Tyr His Leu Ile Pro Asp Gly Glu Ile Thr Ser Ile Lys
                170                      175                      180

Ile Asn Arg Val Asp Pro Ser Glu Ser Leu Ser Ile Arg Leu Val
                185                      190                      195

Gly Gly Ser Glu Thr Pro Leu Val His Ile Ile Ile Gln His Ile
                200                      205                      210

Tyr Arg Asp Gly Val Ile Ala Arg Asp Gly Arg Leu Leu Pro Gly
                215                      220                      225

Asp Ile Ile Leu Lys Val Asn Gly Met Asp Ile Ser Asn Val Pro
                230                      235                      240

His Asn Tyr Ala Val Arg Leu Leu Arg Gln Pro Cys Gln Val Leu
                245                      250                      255

Trp Leu Thr Val Met Arg Glu Gln Lys Phe Arg Ser Arg Asn Asn
                260                      265                      270

Gly Gln Ala Pro Asp Ala Tyr Arg Pro Arg Asp Asp Ser Phe His
                275                      280                      285

Val Ile Leu Asn Lys Ser Ser Pro Glu Glu Gln Leu Gly Ile Lys
                290                      295                      300

Leu Val Arg Lys Val Asp Glu Pro Gly Val Phe Ile Phe Asn Val
                305                      310                      315

Leu Asp Gly Gly Val Ala Tyr Arg His Gly Gln Leu Glu Glu Asn
                320                      325                      330

Asp Arg Val Leu Ala Ile Asn Gly His Asp Leu Arg Tyr Gly Ser
                335                      340                      345

Pro Glu Ser Ala Ala His Leu Ile Gln Ala Ser Glu Arg Arg Val
                350                      355                      360

His Leu Val Val Ser Arg Gln Val Arg Gln Arg Ser Pro Asp Ile
                365                      370                      375

Phe Gln Glu Ala Gly Trp Asn Ser Asn Gly Ser Trp Ser Pro Gly
                380                      385                      390

Pro Gly Glu Arg Ser Asn Thr Pro Lys Pro Leu His Pro Thr Ile
                395                      400                      405

Thr Cys His Glu Lys Val Val Asn Ile Gln Lys Asp Pro Gly Glu
```

```
              410                         415                     420

 Ser Leu Gly Met Thr Val Ala Gly Gly Ala Ser His Arg Glu Trp
              425                         430                     435

 Asp Leu Pro Ile Tyr Val Ile Ser Val Glu Pro Gly Gly Val Ile
              440                         445                     450

 Ser Arg Asp Gly Arg Ile Lys Thr Gly Asp Ile Leu Leu Asn Val
              455                         460                     465

 Asp Gly Val Glu Leu Thr Glu Val Ser Arg Ser Glu Ala Val Ala
              470                         475                     480

 Leu Leu Lys Arg Thr Ser Ser Ser Ile Val Leu Lys Ala Leu Glu
              485                         490                     495

 Val Lys Glu Tyr Glu Pro Gln Glu Asp Cys Ser Ser Pro Ala Ala
              500                         505                     510

 Leu Asp Ser Asn His Asn Met Ala Pro Pro Ser Asp Trp Ser Pro
              515                         520                     525

 Ser Trp Val Met Trp Leu Glu Leu Pro Arg Cys Leu Tyr Asn Cys
              530                         535                     540

 Lys Asp Ile Val Leu Arg Arg Asn Thr Ala Gly Ser Leu Gly Phe
              545                         550                     555

 Cys Ile Val Gly Gly Tyr Glu Glu Tyr Asn Gly Asn Lys Pro Phe
              560                         565                     570

 Phe Ile Lys Ser Ile Val Glu Gly Thr Pro Ala Tyr Asn Asp Gly
              575                         580                     585

 Arg Ile Arg Cys Gly Asp Ile Leu Leu Ala Val Asn Gly Arg Ser
              590                         595                     600

 Thr Ser Gly Met Ile His Ala Cys Leu Ala Arg Leu Leu Lys Glu
              605                         610                     615

 Leu Lys Gly Arg Ile Thr Leu Thr Ile Val Ser Trp Pro Gly Thr
              620                         625                     630

 Phe Leu


<210> 41
<211> 1964
<212> DNA
<213> Homo Sapien

<400> 41
 accaggcatt gtatcttcag ttgtcatcaa gttcgcaatc agattggaaa 50

 agctcaactt gaagctttct tgcctgcagt gaagcagaga gatagatatt 100
```

```
attcacgtaa taaaaaacat gggcttcaac ctgactttcc acctttccta 150

caaattccga ttactgttgc tgttgacttt gtgcctgaca gtggttgggt 200

gggccaccag taactacttc gtgggtgcca ttcaagagat tcctaaagca 250

aaggagttca tggctaattt ccataagacc ctcattttgg ggaagggaaa 300

aactctgact aatgaagcat ccacgaagaa ggtagaactt gacaactgtc 350

cttctgtgtc tccttacctc agaggccaga gcaagctcat tttcaaacca 400

gatctcactt tggaagaggt acaggcagaa aatcccaaag tgtccagagg 450

ccggtatcgc cctcaggaat gtaaagcttt acagagggtc gccatcctcg 500

ttccccaccg aacagagag aaacacctga tgtacctgct ggaacatctg 550

catcccttcc tgcagaggca gcagctggat tatggcatct acgtcatcca 600

ccaggctgaa ggtaaaaagt ttaatcgagc caaactcttg aatgtgggct 650
atctagaagc cctcaaggaa gaaaattggg actgctttat attccacgat 700

gtggacctgg tacccgagaa tgactttaac ctttacaagt gtgaggagca 750

tcccaagcat ctggtggttg gcaggaacag cactgggtac aggttacgtt 800

acagtggata ttttgggggt gttactgccc taagcagaga gcagttttc 850

aaggtgaatg gattctctaa caactactgg ggatggggag gcgaagacga 900

tgacctcaga ctcagggttg agctccaaag aatgaaaatt tcccggcccc 950

tgcctgaagt gggtaaatat acaatggtct tccacactag agacaaaggc 1000

aatgaggtga acgcagaacg gatgaagctc ttacaccaag tgtcacgagt 1050

ctggagaaca gatgggttga gtagttgttc ttataaatta gtatctgtgg 1100

aacacaatcc tttatatatc aacatcacag tggatttctg gtttggtgca 1150

tgaccctgga tcttttggtg atgtttggaa gaactgattc tttgtttgca 1200

ataattttgg cctagagact tcaaatagta gcacacatta agaacctgtt 1250

acagctcatt gttgagctga atttttcctt tttgtatttt cttagcagag 1300

ctcctggtga tgtagagtat aaaacagttg taacaagaca gctttcttag 1350

tcattttgat catgagggtt aaatattgta atatggatac ttgaaggact 1400

ttatataaaa ggatgactca aaggataaaa tgaacgctat ttgaggactc 1450

tggttgaagg agatttattt aaatttgaag taatatatta tgggataaaa 1500

ggccacagga ataagactg ctgaatgtct gagagaacca gagttgttct 1550
```

```
cgtccaaggt agaaaggtac gaagatacaa tactgttatt catttatcct 1600

gtacaatcat ctgtgaagtg gtggtgtcag gtgagaaggc gtccacaaaa 1650

gaggggagaa aaggcgacga atcaggacac agtgaacttg ggaatgaaga 1700

ggtagcagga gggtggagtg tcggctgcaa aggcagcagt agctgagctg 1750

gttgcaggtg ctgatagcct tcaggggagg acctgcccag gtatgccttc 1800

cagtgatgcc caccagagaa tacattctct attagttttt aaagagtttt 1850

tgtaaaatga ttttgtacaa gtaggatatg aattagcagt ttacaagttt 1900

acatattaac taataataaa tatgtctatc aaatacctct gtagtaaaat 1950

gtgaaaaagc aaaa 1964
```

<210> 42
<211> 344
<212> PRT
<213> Homo Sapien

<400> 42

```
Met Gly Phe Asn Leu Thr Phe His Leu Ser Tyr Lys Phe Arg Leu
  1               5                  10                  15

Leu Leu Leu Leu Thr Leu Cys Leu Thr Val Val Gly Trp Ala Thr
                 20                  25                  30

Ser Asn Tyr Phe Val Gly Ala Ile Gln Glu Ile Pro Lys Ala Lys
                 35                  40                  45

Glu Phe Met Ala Asn Phe His Lys Thr Leu Ile Leu Gly Lys Gly
                 50                  55                  60

Lys Thr Leu Thr Asn Glu Ala Ser Thr Lys Lys Val Glu Leu Asp
                 65                  70                  75

Asn Cys Pro Ser Val Ser Pro Tyr Leu Arg Gly Gln Ser Lys Leu
                 80                  85                  90

Ile Phe Lys Pro Asp Leu Thr Leu Glu Glu Val Gln Ala Glu Asn
                 95                 100                 105

Pro Lys Val Ser Arg Gly Arg Tyr Arg Pro Gln Glu Cys Lys Ala
                110                 115                 120

Leu Gln Arg Val Ala Ile Leu Val Pro His Arg Asn Arg Glu Lys
                125                 130                 135

His Leu Met Tyr Leu Leu Glu His Leu His Pro Phe Leu Gln Arg
                140                 145                 150

Gln Gln Leu Asp Tyr Gly Ile Tyr Val Ile His Gln Ala Glu Gly
                155                 160                 165
```

```
Lys Lys Phe Asn Arg Ala Lys Leu Leu Asn Val Gly Tyr Leu Glu
            170             .           175                 180

Ala Leu Lys Glu Glu Asn Trp Asp Cys Phe Ile Phe His Asp Val
            185                         190                 195

Asp Leu Val Pro Glu Asn Asp Phe Asn Leu Tyr Lys Cys Glu Glu
            200                         205                 210

His Pro Lys His Leu Val Val Gly Arg Asn Ser Thr Gly Tyr Arg
            215                         220                 225

Leu Arg Tyr Ser Gly Tyr Phe Gly Gly Val Thr Ala Leu Ser Arg
            230                         235                 240

Glu Gln Phe Phe Lys Val Asn Gly Phe Ser Asn Asn Tyr Trp Gly
            245                         250                 255

Trp Gly Gly Glu Asp Asp Asp Leu Arg Leu Arg Val Glu Leu Gln
            260                         265                 270

Arg Met Lys Ile Ser Arg Pro Leu Pro Glu Val Gly Lys Tyr Thr
            275                         280                 285

Met Val Phe His Thr Arg Asp Lys Gly Asn Glu Val Asn Ala Glu
            290                         295                 300

Arg Met Lys Leu Leu His Gln Val Ser Arg Val Trp Arg Thr Asp
            305                         310                 315

Gly Leu Ser Ser Cys Ser Tyr Lys Leu Val Ser Val Glu His Asn
            320                         325                 330

Pro Leu Tyr Ile Asn Ile Thr Val Asp Phe Trp Phe Gly Ala
            335                         340
```

<210> 43
<211> 485
<212> DNA
<213> Homo Sapien

<400> 43
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 gctcaagacc cagcagtggg acagccagac agacggcacg atggcactga 50

 gctcccagat ctgggccgct tgcctcctgc tcctcctcct cctcgccagc 100

 ctgaccagtg gctctgtttt cccacaacag acgggacaac ttgcagagct 150

 gcaaccccag gacagagctg agccagggc cagctggatg cccatgttcc 200

 agaggcgaag gaggcgagac acccacttcc ccatctgcat tttctgctgc 250

 ggctgctgtc atcgatcaaa gtgtgggatg tgctgcaaga cgtagaacct 300

 acctgccctg cccccgtccc ctcccttcct tatttattcc tgctgcccca 350

 gaacataggt cttggaataa aatggctggt tcttttgttt tccaaaaaaa 400
```

```
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 450

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 485
```

<210> 44
<211> 84
<212> PRT
<213> Homo Sapien

<400> 44
```
Met Ala Leu Ser Ser Gln Ile Trp Ala Ala Cys Leu Leu Leu Leu
 1               5                   10                  15

Leu Leu Leu Ala Ser Leu Thr Ser Gly Ser Val Phe Pro Gln Gln
                20                  25                  30

Thr Gly Gln Leu Ala Glu Leu Gln Pro Gln Asp Arg Ala Gly Ala
                35                  40                  45

Arg Ala Ser Trp Met Pro Met Phe Gln Arg Arg Arg Arg Arg Asp
                50                  55                  60

Thr His Phe Pro Ile Cys Ile Phe Cys Cys Gly Cys Cys His Arg
                65                  70                  75

Ser Lys Cys Gly Met Cys Cys Lys Thr
                80
```

<210> 45
<211> 1076
<212> DNA
<213> Homo Sapien

<400> 45
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gtggcttcat ttcagtggct gacttccaga gagcaatatg gctggttccc 50

caacatgcct caccctcatc tatatccttt ggcagctcac agggtcagca 100

gcctctggac ccgtgaaaga gctggtcggt tccgttggtg gggccgtgac 150

tttccccctg aagtccaaag taaagcaagt tgactctatt gtctggacct 200

tcaacacaac ccctcttgtc accatacagc cagaagggg cactatcata 250

gtgacccaaa atcgtaatag ggagagagta gacttcccag atggaggcta 300

ctccctgaag ctcagcaaac tgaagaagaa tgactcaggg atctactatg 350

tggggatata cagctcatca ctccagcagc cctccaccca ggagtacgtg 400

ctgcatgtct acgagcacct gtcaaagcct aaagtcacca tgggtctgca 450

gagcaataag aatggcacct gtgtgaccaa tctgacatgc tgcatggaac 500

atggggaaga ggatgtgatt tatacctgga aggccctggg gcaagcagcc 550
```

```
aatgagtccc ataatgggtc catcctcccc atctcctgga gatggggaga 600

aagtgatatg accttcatct gcgttgccag gaaccctgtc agcagaaact 650

tctcaagccc catccttgcc aggaagctct gtgaaggtgc tgctgatgac 700

ccagattcct ccatggtcct cctgtgtctc ctgttggtgc ccctcctgct 750

cagtctcttt gtactggggc tatttctttg gtttctgaag agagagagac 800

aagaagagta cattgaagag aagaagagag tggacatttg tcgggaaact 850

cctaacatat gcccccattc tggagagaac acagagtacg acacaatccc 900

tcacactaat agaacaatcc taaaggaaga tccagcaaat acggtttact 950

ccactgtgga aataccgaaa aagatggaaa tccccactc actgctcacg 1000

atgccagaca caccaaggct atttgcctat gagaatgtta tctagacagc 1050

agtgcactcc cctaagtctc tgctca 1076
```

<210> 46
<211> 335
<212> PRT
<213> Homo Sapien

<400> 46

```
Met Ala Gly Ser Pro Thr Cys Leu Thr Leu Ile Tyr Ile Leu Trp
 1               5                   10                  15

Gln Leu Thr Gly Ser Ala Ala Ser Gly Pro Val Lys Glu Leu Val
                20                  25                  30
Gly Ser Val Gly Gly Ala Val Thr Phe Pro Leu Lys Ser Lys Val
                35                  40                  45

Lys Gln Val Asp Ser Ile Val Trp Thr Phe Asn Thr Thr Pro Leu
                50                  55                  60

Val Thr Ile Gln Pro Glu Gly Gly Thr Ile Ile Val Thr Gln Asn
                65                  70                  75

Arg Asn Arg Glu Arg Val Asp Phe Pro Asp Gly Gly Tyr Ser Leu
                80                  85                  90

Lys Leu Ser Lys Leu Lys Lys Asn Asp Ser Gly Ile Tyr Tyr Val
                95                  100                 105

Gly Ile Tyr Ser Ser Ser Leu Gln Gln Pro Ser Thr Gln Glu Tyr
                110                 115                 120

Val Leu His Val Tyr Glu His Leu Ser Lys Pro Lys Val Thr Met
                125                 130                 135

Gly Leu Gln Ser Asn Lys Asn Gly Thr Cys Val Thr Asn Leu Thr
                140                 145                 150
```

```
Cys Cys Met Glu His Gly Glu Glu Asp Val Ile Tyr Thr Trp Lys
                155                 160                 165

Ala Leu Gly Gln Ala Ala Asn Glu Ser His Asn Gly Ser Ile Leu
                170                 175                 180

Pro Ile Ser Trp Arg Trp Gly Glu Ser Asp Met Thr Phe Ile Cys
                185                 190                 195

Val Ala Arg Asn Pro Val Ser Arg Asn Phe Ser Ser Pro Ile Leu
                200                 205                 210

Ala Arg Lys Leu Cys Glu Gly Ala Ala Asp Asp Pro Asp Ser Ser
                215                 220                 225

Met Val Leu Leu Cys Leu Leu Leu Val Pro Leu Leu Leu Ser Leu
                230                 235                 240

Phe Val Leu Gly Leu Phe Leu Trp Phe Leu Lys Arg Glu Arg Gln
                245                 250                 255

Glu Glu Tyr Ile Glu Glu Lys Lys Arg Val Asp Ile Cys Arg Glu
                260                 265                 270

Thr Pro Asn Ile Cys Pro His Ser Gly Glu Asn Thr Glu Tyr Asp
                275                 280                 285

Thr Ile Pro His Thr Asn Arg Thr Ile Leu Lys Glu Asp Pro Ala
                290                 295                 300

Asn Thr Val Tyr Ser Thr Val Glu Ile Pro Lys Lys Met Glu Asn
                305                 310                 315

Pro His Ser Leu Leu Thr Met Pro Asp Thr Pro Arg Leu Phe Ala
                320                 325                 330

Tyr Glu Asn Val Ile
                335
```

<210> 47
<211> 766
<212> DNA
<213> Homo Sapien

<400> 47
```
 ggctcgagcg tttctgagcc aggggtgacc atgacctgct gcgaaggatg 50

 gacatcctgc aatggattca gcctgctggt tctactgctg ttaggagtag 100

 ttctcaatgc gatacctcta attgtcagct tagttgagga agaccaattt 150

 tctcaaaacc ccatctcttg ctttgagtgg tggttcccag gaattatagg 200

 agcaggtctg atggccattc cagcaacaac aatgtccttg acagcaagaa 250

 aaagagcgtg ctgcaacaac agaactggaa tgtttctttc atcatttttc 300
```

agtgtgatca cagtcattgg tgctctgtat tgcatgctga tatccatcca 350

ggctctctta aaaggtcctc tcatgtgtaa ttctccaagc aacagtaatg 400

ccaattgtga attttcattg aaaaacatca gtgacattca tccagaatcc 450

ttcaacttgc agtggttttt caatgactct tgtgcacctc ctactggttt 500

caataaaccc accagtaacg acaccatggc gagtggctgg agagcatcta 550

gtttccactt cgattctgaa gaaacaaac ataggcttat ccacttctca 600

gtatttttag gtctattgct tgttggaatt ctggaggtcc tgtttgggct 650

cagtcagata gtcatcggtt tccttggctg tctgtgtgga gtctctaagc 700

gaagaagtca aattgtgtag tttaatggga ataaaatgta agtatcagta 750

gtttgaaaaa aaaaaa 766

<210> 48
<211> 229
<212> PRT
<213> Homo Sapien

<400> 48
Met Thr Cys Cys Glu Gly Trp Thr Ser Cys Asn Gly Phe Ser Leu
1   5   10   15

Leu Val Leu Leu Leu Gly Val Val Leu Asn Ala Ile Pro Leu
                20   25   30

Ile Val Ser Leu Val Glu Glu Asp Gln Phe Ser Gln Asn Pro Ile
                35   40   45

Ser Cys Phe Glu Trp Trp Phe Pro Gly Ile Ile Gly Ala Gly Leu
                50   55   60

Met Ala Ile Pro Ala Thr Thr Met Ser Leu Thr Ala Arg Lys Arg
                65   70   75

Ala Cys Cys Asn Asn Arg Thr Gly Met Phe Leu Ser Ser Phe Phe
                80   85   90

Ser Val Ile Thr Val Ile Gly Ala Leu Tyr Cys Met Leu Ile Ser
                95   100   105

Ile Gln Ala Leu Leu Lys Gly Pro Leu Met Cys Asn Ser Pro Ser
                110   115   120

Asn Ser Asn Ala Asn Cys Glu Phe Ser Leu Lys Asn Ile Ser Asp
                125   130   135

Ile His Pro Glu Ser Phe Asn Leu Gln Trp Phe Phe Asn Asp Ser
                140   145   150

Cys Ala Pro Pro Thr Gly Phe Asn Lys Pro Thr Ser Asn Asp Thr

```
                       155                      160                      165
Met Ala Ser Gly Trp Arg Ala Ser Ser Phe His Phe Asp Ser Glu
                170                      175                      180

Glu Asn Lys His Arg Leu Ile His Phe Ser Val Phe Leu Gly Leu
                185                      190                      195

Leu Leu Val Gly Ile Leu Glu Val Leu Phe Gly Leu Ser Gln Ile
                200                      205                      210

Val Ile Gly Phe Leu Gly Cys Leu Cys Gly Val Ser Lys Arg Arg
                215                      220                      225

Ser Gln Ile Val
```

<210> 49
<211> 636
<212> DNA
<213> Homo Sapien

<400> 49

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atccgttctc tgcgctgcca gctcaggtga ccctcgcca aggtgacctc  50

gcaggacact ggtgaaggag cagtgaggaa cctgcagagt cacacagttg 100

ctgaccaatt gagctgtgag cctggagcag atccgtgggc tgcagacccc 150

cgccccagtg cctctccccc tgcagccctg ccctcgaac tgtgacatgg 200

agagagtgac cctggccctt ctcctactgg caggcctgac tgccttggaa 250

gccaatgacc catttgccaa taaagacgat cccttctact atgactggaa 300

aaacctgcag ctgagcggac tgatctgcgg agggctcctg gccattgctg 350

ggatcgcggc agttctgagt ggcaaatgca aatacaagag cagccagaag 400

cagcacagtc ctgtacctga gaaggccatc ccactcatca ctccaggctc 450

tgccactact tgctgagcac aggactggcc tccagggatg gcctgaagcc 500
taacactggc ccccagcacc tcctcccctg ggaggcctta tcctcaagga 550

aggacttctc tccaagggca ggctgttagg cccctttctg atcaggaggc 600

ttctttatga attaaactcg ccccaccacc ccctca 636
```

<210> 50
<211> 89
<212> PRT
<213> Homo Sapien

<400> 50

```
Met Glu Arg Val Thr Leu Ala Leu Leu Leu Leu Ala Gly Leu Thr
  1             5                   10                  15
```

```
Ala Leu Glu Ala Asn Asp Pro Phe Ala Asn Lys Asp Asp Pro Phe
                 20              25                      30

Tyr Tyr Asp Trp Lys Asn Leu Gln Leu Ser Gly Leu Ile Cys Gly
                 35              40                      45

Gly Leu Leu Ala Ile Ala Gly Ile Ala Ala Val Leu Ser Gly Lys
                 50              55                      60

Cys Lys Tyr Lys Ser Ser Gln Lys Gln His Ser Pro Val Pro Glu
                 65              70                      75

Lys Ala Ile Pro Leu Ile Thr Pro Gly Ser Ala Thr Thr Cys
                 80              85
```

<210> 51
<211> 1734
<212> DNA
<213> Homo Sapien

<400> 51

```
 gtggactctg agaagcccag gcagttgagg acaggagaga gaaggctgca  50

 gacccagagg gagggaggac agggagtcgg aaggaggagg acagaggagg  100

 gcacagagac gcagagcaag ggcggcaagg aggagaccct ggtgggagga  150

 agacactctg gagagagagg gggctgggca gagatgaagt tccaggggcc  200

 cctggcctgc ctcctgctgg ccctctgcct gggcagtggg gaggctggcc  250

 ccctgcagag cggagaggaa agcactggga caaatattgg ggaggccctt  300

 ggacatggcc tgggagacgc cctgagcgaa ggggtgggaa aggccattgg  350

 caaagaggcc ggaggggcag ctggctctaa agtcagtgag gcccttggcc  400

 aagggaccag agaagcagtt ggcactggag tcaggcaggt tccaggcttt  450

 ggcgcagcag atgctttggg caacagggtc ggggaagcag cccatgctct  500

 gggaaacact gggcacgaga ttggcagaca ggcagaagat gtcattcgac  550

 acggagcaga tgctgtccgc ggctcctggc aggggtgcc tggccacagt  600

 ggtgcttggg aaacttctgg aggccatggc atctttggct ctcaaggtgg  650

 ccttggaggc cagggccagg gcaatcctgg aggtctgggg actccgtggg  700

 tccacggata ccccggaaac tcagcaggca gctttggaat gaatcctcag  750

 ggagctccct ggggtcaagg aggcaatgga gggccaccaa actttgggac  800

 caacactcag ggagctgtgg cccagcctgg ctatggttca gtgagagcca  850

 gcaaccagaa tgaagggtgc acgaatcccc caccatctgg ctcaggtgga  900
```

```
ggctccagca actctggggg aggcagcggc tcacagtcgg gcagcagtgg 950

cagtggcagc aatggtgaca acaacaatgg cagcagcagt ggtggcagca 1000

gcagtggcag cagcagtggc agcagcagtg gcggcagcag tggcggcagc 1050

agtggtggca gcagtggcaa cagtggtggc agcagaggtg acagcggcag 1100

tgagtcctcc tggggatcca gcaccggctc ctcctccggc aaccacggtg 1150

ggagcggcgg aggaaatgga cataaacccg ggtgtgaaaa gccagggaat 1200

gaagcccgcg ggagcgggga tctgggatt cagggcttca gaggacaggg 1250

agtttccagc aacatgaggg aaataagcaa agagggcaat cgcctccttg 1300

gaggctctgg agacaattat cggggcaag ggtcgagctg gggcagtgga 1350

ggaggtgacg ctgttggtgg agtcaatact gtgaactctg agacgtctcc 1400

tgggatgttt aactttgaca ctttctggaa gaattttaaa tccaagctgg 1450

gtttcatcaa ctgggatgcc ataaacaagg accagagaag ctctcgcatc 1500

ccgtgacctc cagacaagga gccaccagat tggatgggag cccccacact 1550

ccctccttaa aacaccaccc tctcatcact aatctcagcc cttgcccttg 1600

aaataaacct tagctgcccc acaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1650

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1700

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1734
```

<210> 52
<211> 440
<212> PRT
<213> Homo Sapien

<400> 52
```
 Met Lys Phe Gln Gly Pro Leu Ala Cys Leu Leu Leu Ala Leu Cys
  1               5                  10                  15

 Leu Gly Ser Gly Glu Ala Gly Pro Leu Gln Ser Gly Glu Glu Ser
                  20                  25                  30

 Thr Gly Thr Asn Ile Gly Glu Ala Leu Gly His Gly Leu Gly Asp
                  35                  40                  45
 Ala Leu Ser Glu Gly Val Gly Lys Ala Ile Gly Lys Glu Ala Gly
                  50                  55                  60

 Gly Ala Ala Gly Ser Lys Val Ser Glu Ala Leu Gly Gln Gly Thr
                  65                  70                  75

 Arg Glu Ala Val Gly Thr Gly Val Arg Gln Val Pro Gly Phe Gly
                  80                  85                  90
```

```
Ala Ala Asp Ala Leu Gly Asn Arg Val Gly Glu Ala Ala His Ala
             95                  100              105

Leu Gly Asn Thr Gly His Glu Ile Gly Arg Gln Ala Glu Asp Val
            110              115              120

Ile Arg His Gly Ala Asp Ala Val Arg Gly Ser Trp Gln Gly Val
            125              130              135

Pro Gly His Ser Gly Ala Trp Glu Thr Ser Gly Gly His Gly Ile
            140              145              150

Phe Gly Ser Gln Gly Gly Leu Gly Gly Gln Gly Gln Gly Asn Pro
            155              160              165

Gly Gly Leu Gly Thr Pro Trp Val His Gly Tyr Pro Gly Asn Ser
            170              175              180

Ala Gly Ser Phe Gly Met Asn Pro Gln Gly Ala Pro Trp Gly Gln
            185              190              195

Gly Gly Asn Gly Gly Pro Pro Asn Phe Gly Thr Asn Thr Gln Gly
            200              205              210

Ala Val Ala Gln Pro Gly Tyr Gly Ser Val Arg Ala Ser Asn Gln
            215              220              225

Asn Glu Gly Cys Thr Asn Pro Pro Pro Ser Gly Ser Gly Gly Gly
            230              235              240

Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gln Ser Gly Ser Ser
            245              250              255

Gly Ser Gly Ser Asn Gly Asp Asn Asn Gly Ser Ser Ser Gly
            260              265              270

Gly Ser Ser Ser Gly Ser Ser Ser Gly Ser Ser Ser Gly Gly Ser
            275              280              285

Ser Gly Gly Ser Ser Gly Gly Ser Ser Gly Asn Ser Gly Gly Ser
            290              295              300

Arg Gly Asp Ser Gly Ser Glu Ser Ser Trp Gly Ser Ser Thr Gly
            305              310              315

Ser Ser Ser Gly Asn His Gly Gly Ser Gly Gly Gly Asn Gly His
            320              325              330

Lys Pro Gly Cys Glu Lys Pro Gly Asn Glu Ala Arg Gly Ser Gly
            335              340              345

Glu Ser Gly Ile Gln Gly Phe Arg Gly Gln Gly Val Ser Ser Asn
            350              355              360

Met Arg Glu Ile Ser Lys Glu Gly Asn Arg Leu Leu Gly Gly Ser
            365              370              375
```

```
Gly Asp Asn Tyr Arg Gly Gln Gly Ser Ser Trp Gly Ser Gly Gly
            380             385                 390

Gly Asp Ala Val Gly Gly Val Asn Thr Val Asn Ser Glu Thr Ser
            395             400                 405

Pro Gly Met Phe Asn Phe Asp Thr Phe Trp Lys Asn Phe Lys Ser
            410             415                 420

Lys Leu Gly Phe Ile Asn Trp Asp Ala Ile Asn Lys Asp Gln Arg
            425             430                 435

Ser Ser Arg Ile Pro
            440
```

<210> 53
<211> 1676
<212> DNA
<213> Homo Sapien

<400> 53

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ggagaagagg ttgtgtggga caagctgctc ccgacagaag gatgtcgctg 50

ctgagcctgc cctggctggg cctcagaccg gtggcaatgt ccccatggct 100

actcctgctg ctggttgtgg gctcctggct actcgcccgc atcctggctt 150

ggacctatgc cttctataac aactgccgcc ggctccagtg tttcccacag 200

cccccaaaac ggaactggtt ttggggtcac ctgggcctga tcactcctac 250

agaggagggc ttgaaggact cgacccagat gtcggccacc tattcccagg 300

gctttacggt atggctgggt cccatcatcc ccttcatcgt tttatgccac 350

cctgacacca tccggtctat caccaatgcc tcagctgcca ttgcacccaa 400

ggataatctc ttcatcaggt tcctgaagcc ctggctggga gaagggatac 450

tgctgagtgg cggtgacaag tggagccgcc accgtcggat gctgacgccc 500

gccttccatt tcaacatcct gaagtcctat ataacgatct tcaacaagag 550

tgcaaacatc atgcttgaca agtggcagca cctggcctca gagggcagca 600

gtcgtctgga catgtttgag cacatcagcc tcatgacctt ggacagtcta 650

cagaaatgca tcttcagctt tgacagccat tgtcaggaga ggcccagtga 700

atatattgcc accatcttgg agctcagtgc ccttgtagag aaaagaagcc 750

agcatatcct ccagcacatg gactttctgt attacctctc ccatgacggg 800

cggcgcttcc acagggcctg ccgcctggtg catgacttca cagacgctgt 850
catccgggag cggcgtcgca ccctccccac tcagggtatt gatgattttt 900

tcaaagacaa agccaagtcc aagactttgg atttcattga tgtgcttctg 950
```

```
ctgagcaagg atgaagatgg gaaggcattg tcagatgagg atataagagc 1000

agaggctgac accttcatgt ttggaggcca tgacaccacg gccagtggcc 1050

tctcctgggt cctgtacaac cttgcgaggc acccagaata ccaggagcgc 1100

tgccgacagg aggtgcaaga gcttctgaag accgcgatc ctaaagagat 1150

tgaatgggac gacctggccc agctgccctt cctgaccatg tgcgtgaagg 1200

agagcctgag gttacatccc ccagctccct tcatctcccg atgctgcacc 1250

caggacattg ttctcccaga tggccgagtc atccccaaag cattacctg 1300

cctcatcgat attatagggg tccatcacaa cccaactgtg tggccggatc 1350

ctgaggtcta cgaccccttc cgctttgacc cagagaacag caaggggagg 1400

tcacctctgg cttttattcc tttctccgca gggcccagga actgcatcgg 1450

gcaggcgttc gccatggcgg agatgaaagt ggtcctggcg ttgatgctgc 1500

tgcacttccg gttcctgcca gaccacactg agccccgcag gaagctggaa 1550

ttgatcatgc gcgccgaggg cgggctttgg ctgcgggtgg agcccctgaa 1600

tgtaggcttg cagtgacttt ctgacccatc cacctgtttt tttgcagatt 1650

gtcatgaata aaacggtgct gtcaaa 1676
```

<210> 54
<211> 524
<212> PRT
<213> Homo Sapien

<400> 54

```
Met Ser Leu Leu Ser Leu Pro Trp Leu Gly Leu Arg Pro Val Ala
  1               5                  10                  15

Met Ser Pro Trp Leu Leu Leu Leu Val Val Gly Ser Trp Leu
                20                  25                  30

Leu Ala Arg Ile Leu Ala Trp Thr Tyr Ala Phe Tyr Asn Asn Cys
                35                  40                  45

Arg Arg Leu Gln Cys Phe Pro Gln Pro Lys Arg Asn Trp Phe
                50                  55                  60

Trp Gly His Leu Gly Leu Ile Thr Pro Thr Glu Glu Gly Leu Lys
                65                  70                  75

Asp Ser Thr Gln Met Ser Ala Thr Tyr Ser Gln Gly Phe Thr Val
                80                  85                  90

Trp Leu Gly Pro Ile Ile Pro Phe Ile Val Leu Cys His Pro Asp
                95                  100                 105
```

```
Thr Ile Arg Ser Ile Thr Asn Ala Ser Ala Ala Ile Ala Pro Lys
              110               115               120

Asp Asn Leu Phe Ile Arg Phe Leu Lys Pro Trp Leu Gly Glu Gly
              125               130               135

Ile Leu Leu Ser Gly Gly Asp Lys Trp Ser Arg His Arg Arg Met
              140               145               150

Leu Thr Pro Ala Phe His Phe Asn Ile Leu Lys Ser Tyr Ile Thr
              155               160               165

Ile Phe Asn Lys Ser Ala Asn Ile Met Leu Asp Lys Trp Gln His
              170               175               180

Leu Ala Ser Glu Gly Ser Ser Arg Leu Asp Met Phe Glu His Ile
              185               190               195

Ser Leu Met Thr Leu Asp Ser Leu Gln Lys Cys Ile Phe Ser Phe
              200               205               210

Asp Ser His Cys Gln Glu Arg Pro Ser Glu Tyr Ile Ala Thr Ile
              215               220               225

Leu Glu Leu Ser Ala Leu Val Glu Lys Arg Ser Gln His Ile Leu
              230               235               240

Gln His Met Asp Phe Leu Tyr Tyr Leu Ser His Asp Gly Arg Arg
              245               250               255

Phe His Arg Ala Cys Arg Leu Val His Asp Phe Thr Asp Ala Val
              260               265               270

Ile Arg Glu Arg Arg Arg Thr Leu Pro Thr Gln Gly Ile Asp Asp
              275               280               285

Phe Phe Lys Asp Lys Ala Lys Ser Lys Thr Leu Asp Phe Ile Asp
              290               295               300

Val Leu Leu Leu Ser Lys Asp Glu Asp Gly Lys Ala Leu Ser Asp
              305               310               315

Glu Asp Ile Arg Ala Glu Ala Asp Thr Phe Met Phe Gly Gly His
              320               325               330

Asp Thr Thr Ala Ser Gly Leu Ser Trp Val Leu Tyr Asn Leu Ala
              335               340               345

Arg His Pro Glu Tyr Gln Glu Arg Cys Arg Gln Glu Val Gln Glu
              350               355               360

Leu Leu Lys Asp Arg Asp Pro Lys Glu Ile Glu Trp Asp Asp Leu
              365               370               375

Ala Gln Leu Pro Phe Leu Thr Met Cys Val Lys Glu Ser Leu Arg
              380               385               390
```

```
Leu His Pro Pro Ala Pro Phe Ile Ser Arg Cys Cys Thr Gln Asp
            395             400                 405

Ile Val Leu Pro Asp Gly Arg Val Ile Pro Lys Gly Ile Thr Cys
            410                 415                 420

Leu Ile Asp Ile Ile Gly Val His His Asn Pro Thr Val Trp Pro
            425                 430                 435

Asp Pro Glu Val Tyr Asp Pro Phe Arg Phe Asp Pro Glu Asn Ser
            440                 445                 450

Lys Gly Arg Ser Pro Leu Ala Phe Ile Pro Phe Ser Ala Gly Pro
            455                 460                 465

Arg Asn Cys Ile Gly Gln Ala Phe Ala Met Ala Glu Met Lys Val
            470                 475                 480

Val Leu Ala Leu Met Leu Leu His Phe Arg Phe Leu Pro Asp His
            485                 490                 495

Thr Glu Pro Arg Arg Lys Leu Glu Leu Ile Met Arg Ala Glu Gly
            500                 505                 510

Gly Leu Trp Leu Arg Val Glu Pro Leu Asn Val Gly Leu Gln
            515                 520
```

<210> 55
<211> 644
<212> DNA
<213> Homo Sapien

<400> 55

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atcgcatcaa ttgggagtac catcttcctc atgggaccag tgaaacagct 50

gaagcgaatg tttgagccta ctcgtttgat tgcaactatc atggtgctgt 100

tgtgttttgc acttaccctg tgttctgcct tttggtggca taacaaggga 150

cttgcactta tcttctgcat tttgcagtct ttggcattga cgtggtacag 200

cctttccttc ataccatttg caagggatgc tgtgaagaag tgttttgccg 250

tgtgtcttgc ataattcatg gccagtttta tgaagctttg gaaggcacta 300

tggacagaag ctggtggaca gttttgtaac tatcttcgaa acctctgtct 350

tacagacatg tgccttttat cttgcagcaa tgtgttgctt gtgattcgaa 400

catttgaggg ttacttttgg aagcaacaat acattctcga acctgaatgt 450

cagtagcaca ggatgagaag tgggttctgt atcttgtgga gtggaatctt 500

cctcatgtac ctgtttcctc tctggatgtt gtcccactga attcccatga 550

atacaaacct attcagcaac agcaaaaaaa aaaaaaaaaa aaaaaaaaa 600
```

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 644

<210> 56
<211> 77
<212> PRT
<213> Homo Sapien
<400> 56

```
Met Gly Pro Val Lys Gln Leu Lys Arg Met Phe Glu Pro Thr Arg
 1               5                  10                      15

Leu Ile Ala Thr Ile Met Val Leu Leu Cys Phe Ala Leu Thr Leu
                20                  25                      30

Cys Ser Ala Phe Trp Trp His Asn Lys Gly Leu Ala Leu Ile Phe
                35                  40                      45

Cys Ile Leu Gln Ser Leu Ala Leu Thr Trp Tyr Ser Leu Ser Phe
                50                  55                      60

Ile Pro Phe Ala Arg Asp Ala Val Lys Lys Cys Phe Ala Val Cys
                65                  70                      75

Leu Ala
```

<210> 57
<211> 3334
<212> DNA
<213> Homo Sapien

<400> 57

```
cggctcgagc tcgagccgaa tcggctcgag gggcagtgga gcacccagca 50

ggccgccaac atgctctgtc tgtgcctgta cgtgccggtc atcggggaag 100

cccagaccga gttccagtac tttgagtcga aggggctccc tgccgagctg 150

aagtccattt tcaagctcag tgtcttcatc ccctcccagg aattctccac 200

ctaccgccag tggaagcaga aaattgtaca agctggagat aaggaccttg 250

atgggcagct agactttgaa gaatttgtcc attatctcca agatcatgag 300

aagaagctga ggctggtgtt taagattttg gacaaaaaga atgatggacg 350

cattgacgcg caggagatca tgcagtccct gcgggacttg ggagtcaaga 400

tatctgaaca gcaggcagaa aaaattctca agagcatgga taaaaacggc 450

acgatgacca tcgactggaa cgagtggaga gactaccacc tcctccaccc 500

cgtggaaaac atccccgaga tcatcctcta ctggaagcat tccacgatct 550

ttgatgtggg tgagaatcta acggtcccgg atgagttcac agtggaggag 600

aggcagacgg ggatgtggtg gagacacctg gtggcaggag gtggggcagg 650
```

```
ggccgtatcc agaacctgca cggcccccct ggacaggctc aaggtgctca 700

tgcaggtcca tgcctcccgc agcaacaaca tgggcatcgt tggtggcttc 750

actcagatga ttcgagaagg aggggccagg tcactctggc ggggcaatgg 800

catcaacgtc ctcaaaattg cccccgaatc agccatcaaa ttcatggcct 850

atgagcagat caagcgcctt gttggtagtg accaggagac tctgaggatt 900
cacgagaggc ttgtggcagg gtccttggca ggggccatcg cccagagcag 950

catctaccca atggaggtcc tgaagacccg gatggcgctg cggaagacag 1000

gccagtactc aggaatgctg gactgcgcca ggaggatcct ggccagagag 1050

ggggtggccg ccttctacaa aggctatgtc cccaacatgc tgggcatcat 1100

cccctatgcc ggcatcgacc ttgcagtcta cgagacgctc aagaatgcct 1150

ggctgcagca ctatgcagtg aacagcgcgg accccggcgt gtttgtgctc 1200

ctggcctgtg gcaccatgtc cagtacctgt ggccagctgg ccagctaccc 1250

cctggcccta gtcaggaccc ggatgcaggc gcaagcctct attgagggcg 1300

ctccggaggt gaccatgagc agcctcttca aacatatcct gcggaccgag 1350

ggggccttcg ggctgtacag ggggctggcc cccaacttca tgaaggtcat 1400

cccagctgtg agcatcagct acgtggtcta cgagaacctg aagatcaccc 1450

tgggcgtgca gtcgcggtga cgggggggagg gccgcccggc agtggactcg 1500

ctgatcctgg gccgcagcct ggggtgtgca gccatctcat tctgtgaatg 1550

tgccaacact aagctgtctc gagccaagct gtgaaaaccc tagacgcacc 1600

cgcagggagg gtggggagag ctggcaggcc cagggcttgt cctgctgacc 1650

ccagcagacc ctcctgttgg ttccagcgaa gaccacaggc attccttagg 1700

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ttccatttca cccttgcagc cagctgttgg ccacggcccc tgccctctgg 1850

tctgccgtgc atctccctgt gccctcttgc tgcctgcctg tctgctgagg 1900

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ataatccatg atgaaaggtg aggtcacgtg gcctcccagg cctgacttcc 2000

caacctacag cattgacgcc aacttggctg tgaaggaaga ggaaaggatc 2050

tggccttgtg gtcactggca tctgagccct gctgatggct ggggctctcg 2100
```

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ggcatgcttg ggagtgcagg gggctcgggc tgcctggcct ggctgcacag 2150

aaggcaagtg ctggggctca tggtgctctg agctggcctg gaccctgtca 2200

ggatgggccc cacctcagaa ccaaactcac tgtccccact gtggcatgag 2250

ggcagtggag caccatgttt gagggcgaag ggcagagcgt ttgtgtgttc 2300

tggggaggga aggaaaaggt gttggaggcc ttaattatgg actgttggga 2350

aaagggtttt gtccagaagg acaagccgga caaatgagcg acttctgtgc 2400

ttccagagga agacgaggga gcaggagctt ggctgactgc tcagagtctg 2450

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gcccttgctt aacaatgccg gccaactggc gacctcacgg ttgcacttcc 3100

attccaccag aatgacctga tgaggaaatc ttcaatagga tgcaaagatc 3150

aatgcaaaaa ttgttatata tgaacatata actggagtcg tcaaaaagca 3200

aattaagaaa gaattggacg ttagaagttg tcatttaaag cagccttcta 3250

ataaagttgt ttcaaagctg aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3300

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 3334
```

<210> 58
<211> 469
<212> PRT
<213> Homo Sapien

<400> 58
 Met Leu Cys Leu Cys Leu Tyr Val Pro Val Ile Gly Glu Ala Gln

```
       1                    5                        10                       15

Thr Glu Phe Gln Tyr Phe Glu Ser Lys Gly Leu Pro Ala Glu Leu
                20                  25                      30

Lys Ser Ile Phe Lys Leu Ser Val Phe Ile Pro Ser Gln Glu Phe
                35                  40                      45

Ser Thr Tyr Arg Gln Trp Lys Gln Lys Ile Val Gln Ala Gly Asp
                50                  55                      60

Lys Asp Leu Asp Gly Gln Leu Asp Phe Glu Glu Phe Val His Tyr
                65                  70                      75

Leu Gln Asp His Glu Lys Lys Leu Arg Leu Val Phe Lys Ile Leu
                80                  85                      90

Asp Lys Lys Asn Asp Gly Arg Ile Asp Ala Gln Glu Ile Met Gln
                95                  100                     105

Ser Leu Arg Asp Leu Gly Val Lys Ile Ser Glu Gln Gln Ala Glu
                110                 115                     120

Lys Ile Leu Lys Ser Met Asp Lys Asn Gly Thr Met Thr Ile Asp
                125                 130                     135

Trp Asn Glu Trp Arg Asp Tyr His Leu Leu His Pro Val Glu Asn
                140                 145                     150

Ile Pro Glu Ile Ile Leu Tyr Trp Lys His Ser Thr Ile Phe Asp
                155                 160                     165

Val Gly Glu Asn Leu Thr Val Pro Asp Glu Phe Thr Val Glu Glu
                170                 175                     180

Arg Gln Thr Gly Met Trp Trp Arg His Leu Val Ala Gly Gly Gly
                185                 190                     195

Ala Gly Ala Val Ser Arg Thr Cys Thr Ala Pro Leu Asp Arg Leu
                200                 205                     210

Lys Val Leu Met Gln Val His Ala Ser Arg Ser Asn Asn Met Gly
                215                 220                     225

Ile Val Gly Gly Phe Thr Gln Met Ile Arg Glu Gly Gly Ala Arg
                230                 235                     240

Ser Leu Trp Arg Gly Asn Gly Ile Asn Val Leu Lys Ile Ala Pro
                245                 250                     255

Glu Ser Ala Ile Lys Phe Met Ala Tyr Glu Gln Ile Lys Arg Leu
                260                 265                     270

Val Gly Ser Asp Gln Glu Thr Leu Arg Ile His Glu Arg Leu Val
                275                 280                     285

Ala Gly Ser Leu Ala Gly Ala Ile Ala Gln Ser Ser Ile Tyr Pro
```

Met Glu Val Leu Lys Thr Arg Met Ala Leu Arg Lys Thr Gly Gln
            305   310   315

Tyr Ser Gly Met Leu Asp Cys Ala Arg Arg Ile Leu Ala Arg Glu
            320   325   330

Gly Val Ala Ala Phe Tyr Lys Gly Tyr Val Pro Asn Met Leu Gly
            335   340   345

Ile Ile Pro Tyr Ala Gly Ile Asp Leu Ala Val Tyr Glu Thr Leu
            350   355   360

Lys Asn Ala Trp Leu Gln His Tyr Ala Val Asn Ser Ala Asp Pro
            365   370   375

Gly Val Phe Val Leu Leu Ala Cys Gly Thr Met Ser Ser Thr Cys
            380   ·   385   390

Gly Gln Leu Ala Ser Tyr Pro Leu Ala Leu Val Arg Thr Arg Met
            395   400   405

Gln Ala Gln Ala Ser Ile Glu Gly Ala Pro Glu Val Thr Met Ser
            410   415   420

Ser Leu Phe Lys His Ile Leu Arg Thr Glu Gly Ala Phe Gly Leu
            425   430   435

Tyr Arg Gly Leu Ala Pro Asn Phe Met Lys Val Ile Pro Ala Val
            440   445   450

Ser Ile Ser Tyr Val Val Tyr Glu Asn Leu Lys Ile Thr Leu Gly
            455   460   465

Val Gln Ser Arg

<210> 59
<211> 1658
<212> DNA
<213> Homo Sapien

<400> 59
 ggaaggcagc ggcagctcca ctcagccagt acccagatac gctgggaacc 50

 ttccccagcc atggcttccc tggggcagat cctcttctgg agcataatta 100

 gcatcatcat tattctggct ggagcaattg cactcatcat tggctttggt 150

 atttcaggga gacactccat cacagtcact actgtcgcct cagctgggaa 200

 cattggggag gatggaatcc tgagctgcac ttttgaacct gacatcaaac 250

 tttctgatat cgtgatacaa tggctgaagg aaggtgtttt aggcttggtc 300

 catgagttca agaaggcaa agatgagctg tcggagcagg atgaaatgtt 350

```
cagaggccgg acagcagtgt ttgctgatca agtgatagtt ggcaatgcct 400

ctttgcggct gaaaaacgtg caactcacag atgctggcac ctacaaatgt 450

tatatcatca cttctaaagg caaggggaat gctaaccttg agtataaaac 500

tggagccttc agcatgccgg aagtgaatgt ggactataat gccagctcag 550

agaccttgcg gtgtgaggct ccccgatggt tcccccagcc cacagtggtc 600

tgggcatccc aagttgacca gggagccaac ttctcggaag tctccaatac 650

cagctttgag ctgaactctg agaatgtgac catgaaggtt gtgtctgtgc 700

tctacaatgt tacgatcaac aacacatact cctgtatgat tgaaaatgac 750

attgccaaag caacagggga tatcaaagtg acagaatcgg agatcaaaag 800

gcggagtcac ctacagctgc taaactcaaa ggcttctctg tgtgtctctt 850

ctttctttgc catcagctgg gcacttctgc ctctcagccc ttacctgatg 900

ctaaaataat gtgccttggc cacaaaaaag catgcaaagt cattgttaca 950

acagggatct acagaactat ttcaccacca gatatgacct agttttatat 1000

ttctgggagg aaatgaattc atatctagaa gtctggagtg agcaaacaag 1050

agcaagaaac aaaaagaagc caaaagcaga aggctccaat atgaacaaga 1100

taaatctatc ttcaaagaca tattagaagt tgggaaaata attcatgtga 1150

actagacaag tgtgttaaga gtgataagta aaatgcacgt ggagacaagt 1200

gcatccccag atctcaggga cctccccctg cctgtcacct ggggagtgag 1250

aggacaggat agtgcatgtt ctttgtctct gaatttttag ttatatgtgc 1300

tgtaatgttg ctctgaggaa gcccctggaa agtctatccc aacatatcca 1350

catcttatat tccacaaatt aagctgtagt atgtaccta agacgctgct 1400

aattgactgc cacttcgcaa ctcaggggcg gctgcatttt agtaatgggt 1450

caaatgattc actttttatg atgcttccaa aggtgccttg gcttctcttc 1500

ccaactgaca aatgccaaag ttgagaaaaa tgatcataat tttagcataa 1550

acagagcagt cggggacacc gattttataa ataaactgag caccttcttt 1600

ttaaacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1650

aaaaaaaa 1658
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<210> 60
<211> 282

<212> PRT
<213> Homo Sapien

<400> 60
```
Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile
 1               5                  10                  15

Ile Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly
                20                  25                  30

Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala
                35                  40                  45

Gly Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro
                50                  55                  60

Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly
                65                  70                  75

Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu
                80                  85                  90

Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala
                95                  100                 105
Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val
                110                 115                 120

Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser
                125                 130                 135

Lys Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe
                140                 145                 150

Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr
                155                 160                 165

Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln Pro Thr Val Val
                170                 175                 180

Trp Ala Ser Gln Val Asp Gln Gly Ala Asn Phe Ser Glu Val Ser
                185                 190                 195

Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met Lys Val
                200                 205                 210

Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr Tyr Ser Cys
                215                 220                 225

Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val
                230                 235                 240

Thr Glu Ser Glu Ile Lys Arg Arg Ser His Leu Gln Leu Leu Asn
                245                 250                 255

Ser Lys Ala Ser Leu Cys Val Ser Ser Phe Phe Ala Ile Ser Trp
                260                 265                 270
```

Ala Leu Leu Pro Leu Ser Pro Tyr Leu Met Leu Lys
          275   280

<210> 61
<211> 1617
<212> DNA
<213> Homo Sapien

<400> 61
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 gagctgcagg acaagcacca ggagcccctc cgggtagcta ctaccctgga 100

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 ttatgggggt cctgcccctg agggcctta tggaccacca gctggtggag 200

 ggccctatgg acaccccaat cctgggatgt tcccctctgg aactccagga 250

 ggaccatatg gcggtgcagc tcccggggc ccctatggtc agccacctcc 300

 aagttcctac ggtgcccagc agcctgggct ttatggacag ggtggcgccc 350

 ctcccaatgt ggatcctgag gcctactcct ggttccagtc ggtggactca 400

 gatcacagtg gctatatctc catgaaggag ctaaagcagg ccctggtcaa 450

 ctgcaattgg tcttcattca atgatgagac ctgcctcatg atgataaaca 500

 tgtttgacaa gaccaagtca ggccgcatcg atgtctacgg cttctcagcc 550

 ctgtggaaat tcatccagca gtggaagaac ctcttccagc agtatgaccg 600

 ggaccgctcg ggctccatta gctacacaga gctgcagcaa gctctgtccc 650

 aaatgggcta caacctgagc ccccagttca cccagcttct ggtctcccgc 700

 tactgcccac gctctgccaa tcctgccatg cagcttgacc gcttcatcca 750

 ggtgtgcacc cagctgcagg tgctgacaga ggccttccgg gagaaggaca 800

 cagctgtaca aggcaacatc cggctcagct cgaggactt cgtcaccatg 850

 acagcttctc ggatgctatg acccaaccat ctgtggagag tggagtgcac 900

 cagggacctt ccctggcttc ttagagtgag agaagtatgt ggacatctct 950

 tcttttcctg tccctctaga agaacattct cccttgcttg atgcaacact 1000

 gttccaaaag agggtggaga gtcctgcatc atagccacca aatagtgagg 1050

 accggggctg aggccacaca gatagggggcc tgatggagga gaggatagaa 1100

 gttgaatgtc ctgatggcca tgagcagttg agtggcacag cctggcacca 1150

 ggagcaggtc cttgtaatgg agttagtgtc cagtcagctg agctccaccc 1200

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tgatgccagt ggtgagtgtt catcggcctg ttaccgttag tacctgtgtt 1250

ccctcaccag gccatcctgt caaacgagcc cattttctcc aaagtggaat 1300

ctgaccaagc atgagagaga tctgtctatg ggaccagtgg cttggattct 1350

gccacaccca taaatccttg tgtgttaact tctagctgcc tggggctggc 1400

cctgctcaga caaatctgct ccctgggcat ctttggccag gcttctgccc 1450

cctgcagctg ggacccctca cttgcctgcc atgctctgct cggcttcagt 1500

ctccaggaga cagtggtcac ctctccctgc caatactttt tttaatttgc 1550

attttttttc atttggggcc aaaagtccag tgaaattgta agcttcaata 1600

aaaggatgaa actctga 1617
```

<210> 62
<211> 284
<212> PRT
<213> Homo Sapien

<400> 62

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Met Ala Ser Tyr Pro Tyr Arg Gln Gly Cys Pro Gly Ala Ala Gly
  1               5                  10                  15

Gln Ala Pro Gly Ala Pro Pro Gly Ser Tyr Tyr Pro Gly Pro Pro
             20                  25                  30

Asn Ser Gly Gly Gln Tyr Gly Ser Gly Leu Pro Pro Gly Gly Gly
             35                  40                  45

Tyr Gly Gly Pro Ala Pro Gly Gly Pro Tyr Gly Pro Pro Ala Gly
             50                  55                  60

Gly Gly Pro Tyr Gly His Pro Asn Pro Gly Met Phe Pro Ser Gly
             65                  70                  75

Thr Pro Gly Gly Pro Tyr Gly Gly Ala Ala Pro Gly Gly Pro Tyr
             80                  85                  90

Gly Gln Pro Pro Pro Ser Ser Tyr Gly Ala Gln Gln Pro Gly Leu
             95                 100                 105

Tyr Gly Gln Gly Gly Ala Pro Pro Asn Val Asp Pro Glu Ala Tyr
            110                 115                 120

Ser Trp Phe Gln Ser Val Asp Ser Asp His Ser Gly Tyr Ile Ser
            125                 130                 135

Met Lys Glu Leu Lys Gln Ala Leu Val Asn Cys Asn Trp Ser Ser
            140                 145                 150

Phe Asn Asp Glu Thr Cys Leu Met Met Ile Asn Met Phe Asp Lys
            155                 160                 165
```

Thr Lys Ser Gly Arg Ile Asp Val Tyr Gly Phe Ser Ala Leu Trp
                170   175   180

Lys Phe Ile Gln Gln Trp Lys Asn Leu Phe Gln Gln Tyr Asp Arg
                185   190   195

Asp Arg Ser Gly Ser Ile Ser Tyr Thr Glu Leu Gln Gln Ala Leu
                200   205   210

Ser Gln Met Gly Tyr Asn Leu Ser Pro Gln Phe Thr Gln Leu Leu
                215   220   225

Val Ser Arg Tyr Cys Pro Arg Ser Ala Asn Pro Ala Met Gln Leu
                230   235   240

Asp Arg Phe Ile Gln Val Cys Thr Gln Leu Gln Val Leu Thr Glu
                245   250   255

Ala Phe Arg Glu Lys Asp Thr Ala Val Gln Gly Asn Ile Arg Leu
                260   265   270

Ser Phe Glu Asp Phe Val Thr Met Thr Ala Ser Arg Met Leu
                275   280

<210> 63
<211> 1234
<212> DNA
<213> Homo Sapien

<400> 63
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 tggtctgtct tcatctccca ggcctctttg cccggagcat cggtgttgtg 100
 gaggagaaag tttcccaaaa cttcgggacc aacttgcctc agctcggaca 150

 accttcctcc actggcccct ctaactctga acatccgcag cccgctctgg 200

 accctaggtc taatgacttg gcaagggttc ctctgaagct cagcgtgcct 250

 ccatcagatg gcttcccacc tgcaggaggt tctgcagtgc agaggtggcc 300

 tccatcgtgg gggctgcctg ccatggattc ctggccccct gaggatcctt 350

 ggcagatgat ggctgctgcg gctgaggacc gcctggggga agcgctgcct 400

 gaagaactct cttacctctc cagtgctgcg gccctcgctc cgggcagtgg 450

 ccctttgcct ggggagtctt ctcccgatgc cacaggcctc tcacctgagg 500

 cttcactcct ccaccaggac tcggagtcca gacgactgcc ccgttctaat 550

 tcactgggag ccggggggaaa aatcctttcc caacgccctc cctggtctct 600

 catccacagg gttctgcctg atcacccctg gggtaccctg aatcccagtg 650

 tgtcctgggg aggtggaggc cctgggactg gttggggaac gaggcccatg 700

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ccacaccctg agggaatctg gggtatcaat aatcaacccc caggtaccag 750

ctggggaaat attaatcggt atccaggagg cagctgggga aatattaatc 800

ggtatccagg aggcagctgg gggaatatta atcggtatcc aggaggcagc 850

tgggggaata ttcatctata cccaggtatc aataacccat tcctcctgg 900

agttctccgc cctcctggct cttcttggaa catcccagct ggcttcccta 950

atcctccaag ccctaggttg cagtggggct agagcacgat agagggaaac 1000

ccaacattgg gagttagagt cctgctcccg ccccttgctg tgtgggctca 1050

atccaggccc tgttaacatg tttccagcac tatccccact tttcagtgcc 1100

tcccctgctc atctccaata aaataaaagc acttatgaaa aaaaaaaaa 1150

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1200

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1234
```

<210> 64
<211> 325
<212> PRT
<213> Homo Sapien

<400> 64
```
 Met Gln Gly Arg Val Ala Gly Ser Cys Ala Pro Leu Gly Leu Leu
   1               5                  10                  15

 Leu Val Cys Leu His Leu Pro Gly Leu Phe Ala Arg Ser Ile Gly
                   20                  25                  30

 Val Val Glu Glu Lys Val Ser Gln Asn Phe Gly Thr Asn Leu Pro
                   35                  40                  45
 Gln Leu Gly Gln Pro Ser Ser Thr Gly Pro Ser Asn Ser Glu His
                   50                  55                  60

 Pro Gln Pro Ala Leu Asp Pro Arg Ser Asn Asp Leu Ala Arg Val
                   65                  70                  75

 Pro Leu Lys Leu Ser Val Pro Pro Ser Asp Gly Phe Pro Pro Ala
                   80                  85                  90

 Gly Gly Ser Ala Val Gln Arg Trp Pro Pro Ser Trp Gly Leu Pro
                   95                  100                 105

 Ala Met Asp Ser Trp Pro Pro Glu Asp Pro Trp Gln Met Met Ala
                   110                 115                 120

 Ala Ala Ala Glu Asp Arg Leu Gly Glu Ala Leu Pro Glu Glu Leu
                   125                 130                 135

 Ser Tyr Leu Ser Ser Ala Ala Ala Leu Ala Pro Gly Ser Gly Pro
                   140                 145                 150
```

```
Leu Pro Gly Glu Ser Ser Pro Asp Ala Thr Gly Leu Ser Pro Glu
            155             160             165

Ala Ser Leu Leu His Gln Asp Ser Glu Ser Arg Arg Leu Pro Arg
            170             175             180

Ser Asn Ser Leu Gly Ala Gly Gly Lys Ile Leu Ser Gln Arg Pro
            185             190             195

Pro Trp Ser Leu Ile His Arg Val Leu Pro Asp His Pro Trp Gly
            200             205             210

Thr Leu Asn Pro Ser Val Ser Trp Gly Gly Gly Gly Pro Gly Thr
            215             220             225

Gly Trp Gly Thr Arg Pro Met Pro His Pro Glu Gly Ile Trp Gly
            230             235             240

Ile Asn Asn Gln Pro Pro Gly Thr Ser Trp Gly Asn Ile Asn Arg
            245             250             255

Tyr Pro Gly Gly Ser Trp Gly Asn Ile Asn Arg Tyr Pro Gly Gly
            260             265             270

Ser Trp Gly Asn Ile Asn Arg Tyr Pro Gly Gly Ser Trp Gly Asn
            275             280             285

Ile His Leu Tyr Pro Gly Ile Asn Asn Pro Phe Pro Pro Gly Val
            290             295             300

Leu Arg Pro Pro Gly Ser Ser Trp Asn Ile Pro Ala Gly Phe Pro
            305             310             315

Asn Pro Pro Ser Pro Arg Leu Gln Trp Gly
            320             325
```

<210> 65
<211> 422
<212> DNA
<213> Homo Sapien

<400> 65
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aaggagaggc caccgggact tcagtgtctc ctccatccca ggagcgcagt 50

ggccactatg gggtctgggc tgcccctttgt cctcctcttg accctccttg 100

gcagctcaca tggaacaggg ccgggtatga ctttgcaact gaagctgaag 150

gagtcttttc tgacaaattc ctcctatgag tccagcttcc tggaattgct 200

tgaaaagctc tgcctcctcc tccatctccc ttcagggacc agcgtcaccc 250

tccaccatgc aagatctcaa caccatgttg tctgcaacac atgacagcca 300

ttgaagcctg tgtccttctt ggcccgggct tttgggccgg ggatgcagga 350

ggcaggcccc gaccctgtct ttcagcaggc ccccaccctc ctgagtggca 400
```

ataaataaaa ttcggtatgc tg 422

<210> 66
<211> 78
<212> PRT
<213> Homo Sapien

<400> 66
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 Met Gly Ser Gly Leu Pro Leu Val Leu Leu Leu Thr Leu Leu Gly
   1               5                  10                  15

 Ser Ser His Gly Thr Gly Pro Gly Met Thr Leu Gln Leu Lys Leu
                  20                  25                  30

 Lys Glu Ser Phe Leu Thr Asn Ser Ser Tyr Glu Ser Ser Phe Leu
                  35                  40                  45

 Glu Leu Leu Glu Lys Leu Cys Leu Leu Leu His Leu Pro Ser Gly
                  50                  55                  60

 Thr Ser Val Thr Leu His His Ala Arg Ser Gln His His Val Val
                  65                  70                  75

 Cys Asn Thr
```

<210> 67
<211> 744
<212> DNA
<213> Homo Sapien

<400> 67
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 acggaccgag ggttcgaggg agggacacgg accaggaacc tgagctaggt 50

 caaagacgcc cgggccaggt gccccgtcgc aggtgcccct ggccggagat 100

 gcggtaggag gggcgagcgc gagaagcccc ttcctcggcg ctgccaaccc 150

 gccacccagc ccatggcgaa ccccgggctg gggctgcttc tggcgctggg 200

 cctgccgttc ctgctggccc gctggggccg agcctggggg caaatacaga 250
 ccacttctgc aaatgagaat agcactgttt tgccttcatc caccagctcc 300

 agctccgatg gcaacctgcg tccggaagcc atcactgcta tcatcgtggt 350

 cttctccctc ttggctgcct tgctcctggc tgtggggctg gcactgttgg 400

 tgcggaagct tcgggagaag cggcagacgg agggcaccta ccggcccagt 450

 agcgaggagc agttctccca tgcagccgag gcccgggccc ctcaggactc 500

 caaggagacg gtgcagggct gcctgcccat ctaggtcccc tctcctgcat 550

 ctgtctccct tcattgctgt gtgaccttgg ggaaaggcag tgccctctct 600

 gggcagtcag atccacccag tgcttaatag cagggaagaa ggtacttcaa 650
```

```
agactctgcc cctgaggtca agagaggatg gggctattca cttttatata 700

tttatataaa attagtagtg agatgtaaaa aaaaaaaaaa aaaa 744
```

<210> 68
<211> 123
<212> PRT
<213> Homo Sapien

<400> 68

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 Met Ala Asn Pro Gly Leu Gly Leu Leu Leu Ala Leu Gly Leu Pro
  1               5                  10                  15

 Phe Leu Leu Ala Arg Trp Gly Arg Ala Trp Gly Gln Ile Gln Thr
                 20                  25                  30

 Thr Ser Ala Asn Glu Asn Ser Thr Val Leu Pro Ser Ser Thr Ser
                 35                  40                  45

 Ser Ser Ser Asp Gly Asn Leu Arg Pro Glu Ala Ile Thr Ala Ile
                 50                  55                  60

 Ile Val Val Phe Ser Leu Leu Ala Ala Leu Leu Leu Ala Val Gly
                 65                  70                  75

 Leu Ala Leu Leu Val Arg Lys Leu Arg Glu Lys Arg Gln Thr Glu
                 80                  85                  90

 Gly Thr Tyr Arg Pro Ser Ser Glu Glu Gln Phe Ser His Ala Ala
                 95                 100                 105

 Glu Ala Arg Ala Pro Gln Asp Ser Lys Glu Thr Val Gln Gly Cys
                110                 115                 120

 Leu Pro Ile
```

<210> 69
<211> 3265
<212> DNA
<213> Homo Sapien

<400> 69

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 gccaggaata actagagagg aacaatgggg ttattcagag gttttgtttt 50
 cctcttagtt ctgtgcctgc tgcaccagtc aaatacttcc ttcattaagc 100

 tgaataataa tggctttgaa gatattgtca ttgttataga tcctagtgtg 150

 ccagaagatg aaaaaataat tgaacaaata gaggatatgg tgactacagc 200

 ttctacgtac ctgtttgaag ccacagaaaa aagatttttt ttcaaaaatg 250

 tatctatatt aattcctgag aattggaagg aaatcctca gtacaaaagg 300

 ccaaaacatg aaaaccataa acatgctgat gttatagttg caccacctac 350
```

```
actcccaggt agagatgaac catacaccaa gcagttcaca gaatgtggag 400

agaaaggcga atacattcac ttcacccctg accttctact tggaaaaaaa 450

caaaatgaat atggaccacc aggcaaactg tttgtccatg agtgggctca 500

cctccggtgg ggagtgtttg atgagtacaa tgaagatcag cctttctacc 550

gtgctaagtc aaaaaaaatc gaagcaacaa ggtgttccgc aggtatctct 600

ggtagaaata gagtttataa gtgtcaagga ggcagctgtc ttagtagagc 650

atgcagaatt gattctacaa caaaactgta tggaaaagat tgtcaattct 700

ttcctgataa agtacaaaca gaaaaagcat ccataatgtt tatgcaaagt 750

attgattctg ttgttgaatt ttgtaacgaa aaaacccata atcaagaagc 800

tccaagccta caaaacataa agtgcaattt tagaagtaca tgggaggtga 850

ttagcaattc tgaggatttt aaaaacacca tacccatggt gacaccacct 900

cctccacctg tcttctcatt gctgaagatc agtcaaagaa ttgtgtgctt 950

agttcttgat aagtctggaa gcatgggggg taaggaccgc ctaaatcgaa 1000

tgaatcaagc agcaaaacat ttcctgctgc agactgttga aaatggatcc 1050

tgggtgggga tggttcactt tgatagtact gccactattg taaataagct 1100

aatccaaata aaaagcagtg atgaaagaaa cacactcatg gcaggattac 1150

ctacatatcc tctgggagga acttccatct gctctggaat taaatatgca 1200

tttcaggtga ttggagagct acattcccaa ctcgatggat ccgaagtact 1250

gctgctgact gatggggagg ataacactgc aagttcttgt attgatgaag 1300

tgaaacaaag tggggccatt gttcatttta ttgctttggg aagagctgct 1350

gatgaagcag taatagagat gagcaagata acaggaggaa gtcattttta 1400

tgtttcagat gaagctcaga acaatggcct cattgatgct tttgggggctc 1450

ttacatcagg aaatactgat ctctcccaga gtcccttca gctcgaaagt 1500

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tgatagtaca gtgggaaagg acacgttctt tctcatcaca tggaacagtc 1600

tgcctcccag tatttctctc tgggatccca gtggaacaat aatggaaaat 1650

ttcacagtgg atgcaacttc caaaatggcc tatctcagta ttccaggaac 1700

tgcaaaggtg ggcacttggg catacaatct tcaagccaaa gcgaacccag 1750

aaacattaac tattacagta acttctcgag cagcaaattc ttctgtgcct 1800
```

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ccaatcacag tgaatgctaa aatgaataag gacgtaaaca gtttccccag 1850

cccaatgatt gtttacgcag aaattctaca aggatatgta cctgttcttg 1900

gagccaatgt gactgctttc attgaatcac agaatggaca tacagaagtt 1950

ttggaacttt tggataatgg tgcaggcgct gattctttca agaatgatgg 2000

agtctactcc aggtatttta cagcatatac agaaaatggc agatatagct 2050

taaaagttcg ggctcatgga ggagcaaaca ctgccaggct aaaattacgg 2100

cctccactga atagagccgc gtacatacca ggctgggtag tgaacgggga 2150

aattgaagca aacccgccaa gacctgaaat tgatgaggat actcagacca 2200

ccttggagga tttcagccga acagcatccg gaggtgcatt tgtggtatca 2250

caagtcccaa gccttccctt gcctgaccaa tacccaccaa gtcaaatcac 2300

agaccttgat gccacagttc atgaggataa gattattctt acatggacag 2350

caccaggaga taattttgat gttggaaaag ttcaacgtta tatcataaga 2400

ataagtgcaa gtattcttga tctaagagac agttttgatg atgctcttca 2450

agtaaatact actgatctgt caccaaagga ggccaactcc aaggaaagct 2500

ttgcatttaa accagaaaat atctcagaag aaaatgcaac ccacatattt 2550

attgccatta aaagtataga taaaagcaat ttgacatcaa aagtatccaa 2600

cattgcacaa gtaactttgt ttatccctca agcaaatcct gatgacattg 2650

atcctacacc tactcctact cctactccta ctcctgataa aagtcataat 2700

tctggagtta atatttctac gctggtattg tctgtgattg ggtctgttgt 2750

aattgttaac tttattttaa gtaccaccat ttgaacctta acgaagaaaa 2800

aaatcttcaa gtagacctag aagagagttt taaaaaacaa aacaatgtaa 2850

gtaaaggata tttctgaatc ttaaaattca tcccatgtgt gatcataaac 2900

tcataaaaat aattttaaga tgtcggaaaa ggatactttg attaaataaa 2950

aacactcatg gatatgtaaa aactgtcaag attaaaattt aatagtttca 3000

tttatttgtt attttatttg taagaaatag tgatgaacaa agatcctttt 3050

tcatactgat acctggttgt atattatttg atgcaacagt tttctgaaat 3100

gatatttcaa attgcatcaa gaaattaaaa tcatctatct gagtagtcaa 3150

aatacaagta aaggagagca aataaacaac atttggaaaa aaaaaaaaa 3200
```

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3250

aaaaaaaaaa aaaaa 3265

<210> 70
<211> 919
<212> PRT
<213> Homo Sapien

<400> 70

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Met Gly Leu Phe Arg Gly Phe Val Phe Leu Leu Val Leu Cys Leu
 1               5                  10                  15

Leu His Gln Ser Asn Thr Ser Phe Ile Lys Leu Asn Asn Asn Gly
                20                  25                  30

Phe Glu Asp Ile Val Ile Val Ile Asp Pro Ser Val Pro Glu Asp
                35                  40                  45

Glu Lys Ile Ile Glu Gln Ile Glu Asp Met Val Thr Thr Ala Ser
                50                  55                  60

Thr Tyr Leu Phe Glu Ala Thr Glu Lys Arg Phe Phe Phe Lys Asn
                65                  70                  75

Val Ser Ile Leu Ile Pro Glu Asn Trp Lys Glu Asn Pro Gln Tyr
                80                  85                  90

Lys Arg Pro Lys His Glu Asn His Lys His Ala Asp Val Ile Val
                95                  100                 105

Ala Pro Pro Thr Leu Pro Gly Arg Asp Glu Pro Tyr Thr Lys Gln
                110                 115                 120

Phe Thr Glu Cys Gly Glu Lys Gly Glu Tyr Ile His Phe Thr Pro
                125                 130                 135

Asp Leu Leu Leu Gly Lys Lys Gln Asn Glu Tyr Gly Pro Pro Gly
                140                 145                 150

Lys Leu Phe Val His Glu Trp Ala His Leu Arg Trp Gly Val Phe
                155                 160                 165

Asp Glu Tyr Asn Glu Asp Gln Pro Phe Tyr Arg Ala Lys Ser Lys
                170                 175                 180

Lys Ile Glu Ala Thr Arg Cys Ser Ala Gly Ile Ser Gly Arg Asn
                185                 190                 195

Arg Val Tyr Lys Cys Gln Gly Gly Ser Cys Leu Ser Arg Ala Cys
                200                 205                 210

Arg Ile Asp Ser Thr Thr Lys Leu Tyr Gly Lys Asp Cys Gln Phe
                215                 220                 225

Phe Pro Asp Lys Val Gln Thr Glu Lys Ala Ser Ile Met Phe Met
                230                 235                 240
```

Gln Ser Ile Asp Ser Val Val Glu Phe Cys Asn Glu Lys Thr His
              245   250   255

Asn Gln Glu Ala Pro Ser Leu Gln Asn Ile Lys Cys Asn Phe Arg
              260   265   270

Ser Thr Trp Glu Val Ile Ser Asn Ser Glu Asp Phe Lys Asn Thr
              275   280   285

Ile Pro Met Val Thr Pro Pro Pro Pro Val Phe Ser Leu Leu
              290   295   300

Lys Ile Ser Gln Arg Ile Val Cys Leu Val Leu Asp Lys Ser Gly
              305   310   315

Ser Met Gly Gly Lys Asp Arg Leu Asn Arg Met Asn Gln Ala Ala
              320   325   330

Lys His Phe Leu Leu Gln Thr Val Glu Asn Gly Ser Trp Val Gly
              335   340   345

Met Val His Phe Asp Ser Thr Ala Thr Ile Val Asn Lys Leu Ile
              350   355   360

Gln Ile Lys Ser Ser Asp Glu Arg Asn Thr Leu Met Ala Gly Leu
              365   370   375

Pro Thr Tyr Pro Leu Gly Gly Thr Ser Ile Cys Ser Gly Ile Lys
              380   385   390

Tyr Ala Phe Gln Val Ile Gly Glu Leu His Ser Gln Leu Asp Gly
              395   400   405

Ser Glu Val Leu Leu Leu Thr Asp Gly Glu Asp Asn Thr Ala Ser
              410   415   420

Ser Cys Ile Asp Glu Val Lys Gln Ser Gly Ala Ile Val His Phe
              425   430   435

Ile Ala Leu Gly Arg Ala Ala Asp Glu Ala Val Ile Glu Met Ser
              440   445   450

Lys Ile Thr Gly Gly Ser His Phe Tyr Val Ser Asp Glu Ala Gln
              455   460   465

Asn Asn Gly Leu Ile Asp Ala Phe Gly Ala Leu Thr Ser Gly Asn
              470   475   480

Thr Asp Leu Ser Gln Lys Ser Leu Gln Leu Glu Ser Lys Gly Leu
              485   490   495

Thr Leu Asn Ser Asn Ala Trp Met Asn Asp Thr Val Ile Ile Asp
              500   505   510

Ser Thr Val Gly Lys Asp Thr Phe Phe Leu Ile Thr Trp Asn Ser
              515   520   525

```
Leu Pro Pro Ser Ile Ser Leu Trp Asp Pro Ser Gly Thr Ile Met
             530                 535                     540

Glu Asn Phe Thr Val Asp Ala Thr Ser Lys Met Ala Tyr Leu Ser
             545                 550                     555

Ile Pro Gly Thr Ala Lys Val Gly Thr Trp Ala Tyr Asn Leu Gln
             560                 565                     570

Ala Lys Ala Asn Pro Glu Thr Leu Thr Ile Thr Val Thr Ser Arg
             575                 580                     585

Ala Ala Asn Ser Ser Val Pro Pro Ile Thr Val Asn Ala Lys Met
             590                 595                     600

Asn Lys Asp Val Asn Ser Phe Pro Ser Pro Met Ile Val Tyr Ala
             605                 610                     615

Glu Ile Leu Gln Gly Tyr Val Pro Val Leu Gly Ala Asn Val Thr
             620                 625                     630

Ala Phe Ile Glu Ser Gln Asn Gly His Thr Glu Val Leu Glu Leu
             635                 640                     645

Leu Asp Asn Gly Ala Gly Ala Asp Ser Phe Lys Asn Asp Gly Val
             650                 655                     660

Tyr Ser Arg Tyr Phe Thr Ala Tyr Thr Glu Asn Gly Arg Tyr Ser
             665                 670                     675

Leu Lys Val Arg Ala His Gly Gly Ala Asn Thr Ala Arg Leu Lys
             680                 685                     690

Leu Arg Pro Pro Leu Asn Arg Ala Ala Tyr Ile Pro Gly Trp Val
             695                 700                     705

Val Asn Gly Glu Ile Glu Ala Asn Pro Pro Arg Pro Glu Ile Asp
             710                 715                     720

Glu Asp Thr Gln Thr Thr Leu Glu Asp Phe Ser Arg Thr Ala Ser
             725                 730                     735

Gly Gly Ala Phe Val Val Ser Gln Val Pro Ser Leu Pro Leu Pro
             740                 745                     750

Asp Gln Tyr Pro Pro Ser Gln Ile Thr Asp Leu Asp Ala Thr Val
             755                 760                     765

His Glu Asp Lys Ile Ile Leu Thr Trp Thr Ala Pro Gly Asp Asn
             770                 775                     780

Phe Asp Val Gly Lys Val Gln Arg Tyr Ile Ile Arg Ile Ser Ala
             785                 790                     795

Ser Ile Leu Asp Leu Arg Asp Ser Phe Asp Asp Ala Leu Gln Val
             800                 805                     810
```

```
Asn Thr Thr Asp Leu Ser Pro Lys Glu Ala Asn Ser Lys Glu Ser
            815                 820                 825

Phe Ala Phe Lys Pro Glu Asn Ile Ser Glu Glu Asn Ala Thr His
            830                 835                 840

Ile Phe Ile Ala Ile Lys Ser Ile Asp Lys Ser Asn Leu Thr Ser
            845                 850                 855

Lys Val Ser Asn Ile Ala Gln Val Thr Leu Phe Ile Pro Gln Ala
            860                 865                 870

Asn Pro Asp Asp Ile Asp Pro Thr Pro Thr Pro Thr Pro Thr Pro
            875                 880                 885

Thr Pro Asp Lys Ser His Asn Ser Gly Val Asn Ile Ser Thr Leu
            890                 895                 900

Val Leu Ser Val Ile Gly Ser Val Val Ile Val Asn Phe Ile Leu
            905                 910                 915

Ser Thr Thr Ile
```

<210> 71
<211> 3877
<212> DNA
<213> Homo Sapien

<400> 71
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ctccttaggt ggaaaccctg ggagtagagt actgacagca aagaccggga  50

aagaccatac gtccccgggc aggggtgaca acaggtgtca tcttttttgat  100

ctcgtgtgtg ctgccttcc tatttcaagg aaagacgcca aggtaatttt  150

gacccagagg agcaatgatg tagccacctc ctaaccttcc cttcttgaac  200

ccccagttat gccaggattt actagagagt gtcaactcaa ccagcaagcg  250

gctccttcgg cttaacttgt ggttggagga gagaaccttt gtggggctgc  300

gttctcttag cagtgctcag aagtgacttg cctgagggtg gaccagaaga  350

aaggaaaggt cccctcttgc tgttggctgc acatcaggaa ggctgtgatg  400

ggaatgaagg tgaaaacttg gagatttcac ttcagtcatt gcttctgcct  450

gcaagatcat cctttaaaag tagagaagct gctctgtgtg gtggttaact  500

ccaagaggca gaactcgttc tagaaggaaa tggatgcaag cagctccggg  550

ggccccaaac gcatgcttcc tgtggtctag cccagggaag cccttccgtg  600

ggggccccgg ctttgaggga tgccaccggt tctggacgca tggctgattc  650

ctgaatgatg atggttcgcc gggggctgct tgcgtggatt cccgggtgg  700
```

```
tggttttgct ggtgctcctc tgctgtgcta tctctgtcct gtacatgttg 750

gcctgcaccc caaaaggtga cgaggagcag ctggcactgc ccagggccaa 800

cagccccacg gggaaggagg ggtaccaggc cgtccttcag gagtgggagg 850
agcagcaccg caactacgtg agcagcctga agcggcagat cgcacagctc 900

aaggaggagc tgcaggagag gagtgagcag ctcaggaatg ggcagtacca 950

agccagcgat gctgctggcc tgggtctgga caggagcccc ccagagaaaa 1000

cccaggccga cctcctggcc ttcctgcact cgcaggtgga caaggcagag 1050

gtgaatgctg gcgtcaagct ggccacagag tatgcagcag tgcctttcga 1100

tagctttact ctacagaagg tgtaccagct ggagactggc cttacccgcc 1150

accccgagga gaagcctgtg aggaaggaca agcgggatga gttggtggaa 1200

gccattgaat cagccttgga gaccctgaac aatcctgcag agaacagccc 1250

caatcaccgt ccttacacgg cctctgattt catagaaggg atctaccgaa 1300

cagaaaggga caaagggaca ttgtatgagc tcaccttcaa aggggaccac 1350

aaacacgaat tcaaacggct catcttattt cgaccattca gccccatcat 1400

gaaagtgaaa aatgaaaagc tcaacatggc caacacgctt atcaatgtta 1450

tcgtgcctct agcaaaaagg gtggacaagt tccggcagtt catgcagaat 1500

ttcagggaga tgtgcattga gcaggatggg agagtccatc tcactgttgt 1550

ttactttggg aaagaagaaa taaatgaagt caaaggaata cttgaaaaca 1600

cttccaaagc tgccaacttc aggaactttta ccttcatcca gctgaatgga 1650

gaattttctc ggggaaaggg acttgatgtt ggagcccgct tctggaaggg 1700

aagcaacgtc cttctctttt tctgtgatgt ggacatctac ttcacatctg 1750

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tatccagttc ttttcagtca gtacaatcct ggcataatat acggccacca 1850

tgatgcagtc cctcccttgg aacagcagct ggtcataaag aaggaaactg 1900

gattttggag agactttgga tttgggatga cgtgtcagta tcggtcagac 1950

ttcatcaata taggtgggtt tgatctggac atcaaaggct ggggcggaga 2000

ggatgtgcac ctttatcgca agtatctcca cagcaacctc atagtggtac 2050

ggacgcctgt gcgaggactc ttccacctct ggcatgagaa gcgctgcatg 2100

gacgagctga cccccgagca gtacaagatg tgcatgcagt ccaaggccat 2150
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gaacgaggca tcccacggcc agctgggcat gctggtgttc aggcacgaga 2200

tagaggctca ccttcgcaaa cagaaacaga agacaagtag caaaaaaaca 2250

tgaactccca gagaaggatt gtgggagaca ctttttcttt ccttttgcaa 2300

ttactgaaag tggctgcaac agagaaaaga cttccataaa ggacgacaaa 2350

agaattggac tgatgggtca gagatgagaa agcctccgat ttctctctgt 2400

tgggcttttt acaacagaaa tcaaaatctc cgctttgcct gcaaaagtaa 2450

cccagttgca ccctgtgaag tgtctgacaa aggcagaatg cttgtgagat 2500

tataagccta atggtgtgga ggttttgatg gtgtttacaa tacactgaga 2550

cctgttgttt tgtgtgctca ttgaaatatt catgatttaa gagcagtttt 2600

gtaaaaaatt cattagcatg aaaggcaagc atatttctcc tcatatgaat 2650

gagcctatca gcagggctct agtttctagg aatgctaaaa tatcagaagg 2700

caggagagga gataggctta ttatgatact agtgagtaca ttaagtaaaa 2750

taaaatggac cagaaaagaa aagaaaccat aaatatcgtg tcatattttc 2800

cccaagatta accaaaaata atctgcttat cttttggtt gtccttttaa 2850

ctgtctccgt tttttctttt tatttaaaaa tgcacttttt ttcccttgtg 2900

agttatagtc tgcttattta attaccactt tgcaagcctt acaagagagc 2950

acaagttggc ctacattttt atatttttta agaagatact ttgagatgca 3000

ttatgagaac tttcagttca aagcatcaaa ttgatgccat atccaaggac 3050

atgccaaatg ctgattctgt caggcactga atgtcaggca ttgagacata 3100

gggaaggaat ggtttgtact aatacagacg tacagatact ttctctgaag 3150

agtattttcg aagaggagca actgaacact ggaggaaaag aaaatgacac 3200

tttctgcttt acagaaaagg aaactcattc agactggtga tatcgtgatg 3250

tacctaaaag tcagaaacca cattttctcc tcagaagtag ggaccgcttt 3300

cttacctgtt taaataaacc aaagtatacc gtgtgaacca aacaatctct 3350

tttcaaaaca gggtgctcct cctggcttct ggcttccata agaagaaatg 3400

gagaaaaata tatatatata tatatatatt gtgaaagatc aatccatctg 3450

ccagaatcta gtgggatgga agtttttgct acatgttatc caccccaggc 3500

caggtggaag taactgaatt attttttaaa ttaagcagtt ctactcaatc 3550
```

accaagatgc ttctgaaaat tgcattttat taccatttca aactattttt 3600

taaaaataaa tacagttaac atagagtggt ttcttcattc atgtgaaaat 3650

tattagccag caccagatgc atgagctaat tatctctttg agtccttgct 3700

tctgtttgct cacagtaaac tcattgttta aaagcttcaa gaacattcaa 3750

gctgttggtg tgttaaaaaa tgcattgtat tgatttgtac tggtagttta 3800

tgaaatttaa ttaaaacaca ggccatgaat ggaaggtggt attgcacagc 3850

taataaaata tgatttgtgg atatgaa 3877

<210> 72
<211> 532
<212> PRT
<213> Homo Sapien

<400> 72
```
 Met Met Met Val Arg Arg Gly Leu Leu Ala Trp Ile Ser Arg Val
  1               5                  10                  15

 Val Val Leu Leu Val Leu Leu Cys Cys Ala Ile Ser Val Leu Tyr
                  20                  25                  30

 Met Leu Ala Cys Thr Pro Lys Gly Asp Glu Glu Gln Leu Ala Leu
                  35                  40                  45

 Pro Arg Ala Asn Ser Pro Thr Gly Lys Glu Gly Tyr Gln Ala Val
                  50                  55                  60

 Leu Gln Glu Trp Glu Glu Gln His Arg Asn Tyr Val Ser Ser Leu
                  65                  70                  75

 Lys Arg Gln Ile Ala Gln Leu Lys Glu Glu Leu Gln Glu Arg Ser
                  80                  85                  90

 Glu Gln Leu Arg Asn Gly Gln Tyr Gln Ala Ser Asp Ala Ala Gly
                  95                 100                 105

 Leu Gly Leu Asp Arg Ser Pro Pro Glu Lys Thr Gln Ala Asp Leu
                 110                 115                 120

 Leu Ala Phe Leu His Ser Gln Val Asp Lys Ala Glu Val Asn Ala
                 125                 130                 135

 Gly Val Lys Leu Ala Thr Glu Tyr Ala Ala Val Pro Phe Asp Ser
                 140                 145                 150

 Phe Thr Leu Gln Lys Val Tyr Gln Leu Glu Thr Gly Leu Thr Arg
                 155                 160                 165

 His Pro Glu Glu Lys Pro Val Arg Lys Asp Lys Arg Asp Glu Leu
                 170                 175                 180

 Val Glu Ala Ile Glu Ser Ala Leu Glu Thr Leu Asn Asn Pro Ala
```

```
                185                     190                     195

Glu Asn Ser Pro Asn His Arg Pro Tyr Thr Ala Ser Asp Phe Ile
                200                     205                     210

Glu Gly Ile Tyr Arg Thr Glu Arg Asp Lys Gly Thr Leu Tyr Glu
                215                     220                     225

Leu Thr Phe Lys Gly Asp His Lys His Glu Phe Lys Arg Leu Ile
                230                     235                     240

Leu Phe Arg Pro Phe Ser Pro Ile Met Lys Val Lys Asn Glu Lys
                245                     250                     255

Leu Asn Met Ala Asn Thr Leu Ile Asn Val Ile Val Pro Leu Ala
                260                     265                     270

Lys Arg Val Asp Lys Phe Arg Gln Phe Met Gln Asn Phe Arg Glu
                275                     280                     285

Met Cys Ile Glu Gln Asp Gly Arg Val His Leu Thr Val Val Tyr
                290                     295                     300

Phe Gly Lys Glu Glu Ile Asn Glu Val Lys Gly Ile Leu Glu Asn
                305                     310                     315

Thr Ser Lys Ala Ala Asn Phe Arg Asn Phe Thr Phe Ile Gln Leu
                320                     325                     330

Asn Gly Glu Phe Ser Arg Gly Lys Gly Leu Asp Val Gly Ala Arg
                335                     340                     345

Phe Trp Lys Gly Ser Asn Val Leu Leu Phe Phe Cys Asp Val Asp
                350                     355                     360

Ile Tyr Phe Thr Ser Glu Phe Leu Asn Thr Cys Arg Leu Asn Thr
                365                     370                     375

Gln Pro Gly Lys Lys Val Phe Tyr Pro Val Leu Phe Ser Gln Tyr
                380                     385                     390

Asn Pro Gly Ile Ile Tyr Gly His His Asp Ala Val Pro Pro Leu
                395                     400                     405

Glu Gln Gln Leu Val Ile Lys Lys Glu Thr Gly Phe Trp Arg Asp
                410                     415                     420

Phe Gly Phe Gly Met Thr Cys Gln Tyr Arg Ser Asp Phe Ile Asn
                425                     430                     435

Ile Gly Gly Phe Asp Leu Asp Ile Lys Gly Trp Gly Gly Glu Asp
                440                     445                     450

Val His Leu Tyr Arg Lys Tyr Leu His Ser Asn Leu Ile Val Val
                455                     460                     465

Arg Thr Pro Val Arg Gly Leu Phe His Leu Trp His Glu Lys Arg
```

```
                470                       475                        480
   Cys Met Asp Glu Leu Thr Pro Glu Gln Tyr Lys Met Cys Met Gln
                   485                       490                      495

   Ser Lys Ala Met Asn Glu Ala Ser His Gly Gln Leu Gly Met Leu
                   500                       505                      510

   Val Phe Arg His Glu Ile Glu Ala His Leu Arg Lys Gln Lys Gln
                   515                       520                      525

   Lys Thr Ser Ser Lys Lys Thr
                   530
```

<210> 73
<211> 1701
<212> DNA
<213> Homo Sapien
<220>
<221> unsure
<222> 1528
<223> unknown base

<400> 73

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 tgtcctgggg  atccagaaac  ccatgatacc  ctactgaaca  ccgaatcccc  100

 tggaagccca  cagagacaga  gacagcaaga  gaagcagaga  taaatacact  150

 cacgccagga  gctcgctcgc  tctctctctc  tctctctcac  tcctccctcc  200

 ctctctctct  gcctgtccta  gtcctctagt  cctcaaattc  ccagtcccct  250

 gcacccttc  ctgggacact  atgttgttct  ccgccctcct  gctggaggtg  300

 atttggatcc  tggctgcaga  tgggggtcaa  cactggacgt  atgagggccc  350

 acatggtcag  gaccattggc  cagcctctta  ccctgagtgt  ggaaacaatg  400

 cccagtcgcc  catcgatatt  cagacagaca  gtgtgacatt  tgaccctgat  450

 ttgcctgctc  tgcagcccca  cggatatgac  cagcctggca  ccgagccttt  500

 ggacctgcac  aacaatggcc  acacagtgca  actctctctg  ccctctaccc  550

 tgtatctggg  tggacttccc  cgaaaatatg  tagctgccca  gctccacctg  600

 cactggggtc  agaaaggatc  cccaggggg  tcagaacacc  agatcaacag  650

 tgaagccaca  tttgcagagc  tccacattgt  acattatgac  tctgattcct  700

 atgacagctt  gagtgaggct  gctgagaggc  ctcagggcct  ggctgtcctg  750

 ggcatcctaa  ttgaggtggg  tgagactaag  aatatagctt  atgaacacat  800

 tctgagtcac  ttgcatgaag  tcaggcataa  agatcagaag  acctcagtgc  850
```

```
ctcccttcaa cctaagagag ctgctcccca aacagctggg gcagtacttc 900

cgctacaatg gctcgctcac aactcccct tgctaccaga gtgtgctctg 950

gacagttttt tatagaaggt cccagatttc aatggaacag ctggaaaagc 1000

ttcaggggac attgttctcc acagaagagg agccctctaa gcttctggta 1050

cagaactacc gagcccttca gcctctcaat cagcgcatgg tctttgcttc 1100

tttcatccaa gcaggatcct cgtataccac aggtgaaatg ctgagtctag 1150

gtgtaggaat cttggttggc tgtctctgcc ttctcctggc tgtttatttc 1200

attgctagaa agattcggaa gaagaggctg gaaaaccgaa agagtgtggt 1250

cttcacctca gcacaagcca cgactgaggc ataaattcct tctcagatac 1300

catggatgtg gatgacttcc cttcatgcct atcaggaagc ctctaaaatg 1350

gggtgtagga tctggccaga aacactgtag gagtagtaag cagatgtcct 1400

ccttcccctg gacatctctt agagaggaat ggacccaggc tgtcattcca 1450

ggaagaactg cagagccttc agcctctcca aacatgtagg aggaaatgag 1500

gaaatcgctg tgttgttaat gcagaganca aactctgttt agttgcaggg 1550

gaagtttggg atatacccca aagtcctcta ccccctcact tttatggccc 1600

tttccctaga tatactgcgg gatctctcct taggataaag agttgctgtt 1650

gaagttgtat atttttgatc aatatatttg gaaattaaag tttctgactt 1700

t 1701
```

<210> 74
<211> 337
<212> PRT
<213> Homo Sapien

<400> 74

```
Met Leu Phe Ser Ala Leu Leu Leu Glu Val Ile Trp Ile Leu Ala
 1               5                  10                  15

Ala Asp Gly Gly Gln His Trp Thr Tyr Glu Gly Pro His Gly Gln
                20                  25                  30

Asp His Trp Pro Ala Ser Tyr Pro Glu Cys Gly Asn Asn Ala Gln
                35                  40                  45

Ser Pro Ile Asp Ile Gln Thr Asp Ser Val Thr Phe Asp Pro Asp
                50                  55                  60

Leu Pro Ala Leu Gln Pro His Gly Tyr Asp Gln Pro Gly Thr Glu
                65                  70                  75
```

Pro Leu Asp Leu His Asn Asn Gly His Thr Val Gln Leu Ser Leu
                80   85   90

Pro Ser Thr Leu Tyr Leu Gly Gly Leu Pro Arg Lys Tyr Val Ala
                95   100   105

Ala Gln Leu His Leu His Trp Gly Gln Lys Gly Ser Pro Gly Gly
               110   115   120

Ser Glu His Gln Ile Asn Ser Glu Ala Thr Phe Ala Glu Leu His
               125   130   135

Ile Val His Tyr Asp Ser Asp Ser Tyr Asp Ser Leu Ser Glu Ala
               140   145   150

Ala Glu Arg Pro Gln Gly Leu Ala Val Leu Gly Ile Leu Ile Glu
               155   160   165

Val Gly Glu Thr Lys Asn Ile Ala Tyr Glu His Ile Leu Ser His
               170   175   180

Leu His Glu Val Arg His Lys Asp Gln Lys Thr Ser Val Pro Pro
               185   190   195
Phe Asn Leu Arg Glu Leu Leu Pro Lys Gln Leu Gly Gln Tyr Phe
               200   205   210

Arg Tyr Asn Gly Ser Leu Thr Thr Pro Pro Cys Tyr Gln Ser Val
               215   220   225

Leu Trp Thr Val Phe Tyr Arg Arg Ser Gln Ile Ser Met Glu Gln
               230   235   240

Leu Glu Lys Leu Gln Gly Thr Leu Phe Ser Thr Glu Glu Glu Pro
               245   250   255

Ser Lys Leu Leu Val Gln Asn Tyr Arg Ala Leu Gln Pro Leu Asn
               260   265   270

Gln Arg Met Val Phe Ala Ser Phe Ile Gln Ala Gly Ser Ser Tyr
               275   280   285

Thr Thr Gly Glu Met Leu Ser Leu Gly Val Gly Ile Leu Val Gly
               290   295   300

Cys Leu Cys Leu Leu Leu Ala Val Tyr Phe Ile Ala Arg Lys Ile
               305   310   315

Arg Lys Lys Arg Leu Glu Asn Arg Lys Ser Val Val Phe Thr Ser
               320   325   330

Ala Gln Ala Thr Thr Glu Ala
               335

<210> 75
<211> 1743
<212> DNA

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tgccgctgcc gccgctgctg ctgttgctcc tggcggcgcc ttggggacgg 50

gcagttccct gtgtctctgg tggtttgcct aaacctgcaa acatcacctt 100

cttatccatc aacatgaaga atgtcctaca atggactcca ccagagggtc 150

ttcaaggagt taaagttact tacactgtgc agtatttcat cacaaattgg 200

cccaccagag gtggcactga ctacagatga gaagtccatt tctgttgtcc 250

tgacagctcc agagaagtgg aagagaaatc cagaagacct tcctgtttcc 300

atgcaacaaa tatactccaa tctgaagtat aacgtgtctg tgttgaatac 350

taaatcaaac agaacgtggt cccagtgtgt gaccaaccac acgctggtgc 400

tcacctggct ggagccgaac actctttact gcgtacacgt ggagtccttc 450

gtcccagggc cccctcgccg tgctcagcct tctgagaagc agtgtgccag 500

gactttgaaa gatcaatcat cagagttcaa ggctaaaatc atcttctggt 550

atgttttgcc catatctatt accgtgtttc ttttttctgt gatgggctat 600

tccatctacc gatatatcca cgttggcaaa gagaaacacc cagcaaattt 650

gattttgatt tatggaaatg aatttgacaa aagattcttt gtgcctgctg 700

aaaaaatcgt gattaacttt atcaccctca atatctcgga tgattctaaa 750

atttctcatc aggatatgag tttactggga aaaagcagtg atgtatccag 800

ccttaatgat cctcagccca gcgggaacct gaggccccct caggaggaag 850

aggaggtgaa acatttaggg tatgcttcgc atttgatgga aattttttgt 900

gactctgaag aaaacacgga aggtacttct ctcacccagc aagagtccct 950

cagcagaaca ataccccgg ataaaacagt cattgaatat gaatatgatg 1000

tcagaaccac tgacatttgt gcggggcctg aagagcagga gctcagtttg 1050

caggaggagg tgtccacaca aggaacatta ttggagtcgc aggcagcgtt 1100

ggcagtcttg ggcccgcaaa cgttacagta ctcatacacc cctcagctcc 1150

aagacttaga ccccctggcg caggagcaca cagactcgga ggaggggccg 1200

gaggaagagc catcgacgac cctggtcgac tgggatcccc aaactggcag 1250

gctgtgtatt ccttcgctgt ccagcttcga ccaggattca gagggctgcg 1300

agccttctga gggggatggg ctcggagagg agggtcttct atctagactc 1350
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tatgaggagc cggctccaga caggccacca ggagaaaatg aaacctatct 1400

catgcaattc atggaggaat gggggttata tgtgcagatg gaaaactgat 1450

gccaacactt ccttttgcct tttgtttcct gtgcaaacaa gtgagtcacc 1500

cctttgatcc cagccataaa gtacctggga tgaaagaagt tttttccagt 1550

ttgtcagtgt ctgtgagaat tacttatttc ttttctctat tctcatagca 1600

cgtgtgtgat tggttcatgc atgtaggtct cttaacaatg atggtgggcc 1650

tctggagtcc aggggctggc cggttgttct atgcagagaa agcagtcaat 1700

aaatgtttgc cagactgggt gcagaattta ttcaggtggg tgt 1743
```

<210> 76
<211> 442
<212> PRT
<213> Homo Sapien

<400> 76

```
Met Ser Tyr Asn Gly Leu His Gln Arg Val Phe Lys Glu Leu Lys
 1               5                  10                  15

Leu Leu Thr Leu Cys Ser Ile Ser Ser Gln Ile Gly Pro Pro Glu
                20                  25                  30

Val Ala Leu Thr Thr Asp Glu Lys Ser Ile Ser Val Val Leu Thr
                35                  40                  45
Ala Pro Glu Lys Trp Lys Arg Asn Pro Glu Asp Leu Pro Val Ser
                50                  55                  60

Met Gln Gln Ile Tyr Ser Asn Leu Lys Tyr Asn Val Ser Val Leu
                65                  70                  75

Asn Thr Lys Ser Asn Arg Thr Trp Ser Gln Cys Val Thr Asn His
                80                  85                  90

Thr Leu Val Leu Thr Trp Leu Glu Pro Asn Thr Leu Tyr Cys Val
                95                  100                 105

His Val Glu Ser Phe Val Pro Gly Pro Pro Arg Arg Ala Gln Pro
                110                 115                 120

Ser Glu Lys Gln Cys Ala Arg Thr Leu Lys Asp Gln Ser Ser Glu
                125                 130                 135

Phe Lys Ala Lys Ile Ile Phe Trp Tyr Val Leu Pro Ile Ser Ile
                140                 145                 150

Thr Val Phe Leu Phe Ser Val Met Gly Tyr Ser Ile Tyr Arg Tyr
                155                 160                 165

Ile His Val Gly Lys Glu Lys His Pro Ala Asn Leu Ile Leu Ile
                170                 175                 180
```

```
Tyr Gly Asn Glu Phe Asp Lys Arg Phe Phe Val Pro Ala Glu Lys
            185             190             195

Ile Val Ile Asn Phe Ile Thr Leu Asn Ile Ser Asp Asp Ser Lys
            200             205             210

Ile Ser His Gln Asp Met Ser Leu Leu Gly Lys Ser Ser Asp Val
            215             220             225

Ser Ser Leu Asn Asp Pro Gln Pro Ser Gly Asn Leu Arg Pro Pro
            230             235             240

Gln Glu Glu Glu Glu Val Lys His Leu Gly Tyr Ala Ser His Leu
            245             250             255

Met Glu Ile Phe Cys Asp Ser Glu Glu Asn Thr Glu Gly Thr Ser
            260             265             270

Leu Thr Gln Gln Glu Ser Leu Ser Arg Thr Ile Pro Pro Asp Lys
            275             280             285

Thr Val Ile Glu Tyr Glu Tyr Asp Val Arg Thr Thr Asp Ile Cys
            290             295             300

Ala Gly Pro Glu Glu Gln Glu Leu Ser Leu Gln Glu Glu Val Ser
            305             310             315

Thr Gln Gly Thr Leu Leu Glu Ser Gln Ala Ala Leu Ala Val Leu
            320             325             330

Gly Pro Gln Thr Leu Gln Tyr Ser Tyr Thr Pro Gln Leu Gln Asp
            335             340             345

Leu Asp Pro Leu Ala Gln Glu His Thr Asp Ser Glu Glu Gly Pro
            350             355             360

Glu Glu Glu Pro Ser Thr Thr Leu Val Asp Trp Asp Pro Gln Thr
            365             370             375

Gly Arg Leu Cys Ile Pro Ser Leu Ser Ser Phe Asp Gln Asp Ser
            380             385             390

Glu Gly Cys Glu Pro Ser Glu Gly Asp Gly Leu Gly Glu Glu Gly
            395             400             405

Leu Leu Ser Arg Leu Tyr Glu Glu Pro Ala Pro Asp Arg Pro Pro
            410             415             420

Gly Glu Asn Glu Thr Tyr Leu Met Gln Phe Met Glu Glu Trp Gly
            425             430             435

Leu Tyr Val Gln Met Glu Asn
            440

<210> 77
<211> 1636
<212> DNA
```

```
gaggagcggg ccgaggactc cagcgtgccc aggtctggca tcctgcactt 50

gctgccctct gacacctggg aagatggccg gcccgtggac cttcaccctt 100

ctctgtggtt tgctggcagc caccttgatc caagccaccc tcagtcccac 150

tgcagttctc atcctcggcc caaaagtcat caaagaaaag ctgacacagg 200

agctgaagga ccacaacgcc accagcatcc tgcagcagct gccgctgctc 250

agtgccatgc gggaaaagcc agccggaggc atccctgtgc tgggcagcct 300

ggtgaacacc gtcctgaagc acatcatctg gctgaaggtc atcacagcta 350

acatcctcca gctgcaggtg aagccctcgg ccaatgacca ggagctgcta 400

gtcaagatcc ccctggacat ggtggctgga ttcaacacgc ccctggtcaa 450

gaccatcgtg gagttccaca tgacgactga ggcccaagcc accatccgca 500

tggacaccag tgcaagtggc cccacccgcc tggtcctcag tgactgtgcc 550

accagccatg ggagcctgcg catccaactg ctgtataagc tctccttcct 600

ggtgaacgcc ttagctaagc aggtcatgaa cctcctagtg ccatccctgc 650

ccaatctagt gaaaaaccag ctgtgtcccg tgatcgaggc ttccttcaat 700

ggcatgtatg cagacctcct gcagctggtg aaggtgccca tttccctcag 750

cattgaccgt ctggagtttg accttctgta tcctgccatc aagggtgaca 800

ccattcagct ctacctgggg gccaagttgt tggactcaca gggaaaggtg 850
accaagtggt tcaataactc tgcagcttcc ctgacaatgc ccaccctgga 900

caacatcccg ttcagcctca tcgtgagtca ggacgtggtg aaagctgcag 950

tggctgctgt gctctctcca gaagaattca tggtcctgtt ggactctgtg 1000

cttcctgaga gtgcccatcg gctgaagtca agcatcgggc tgatcaatga 1050

aaaggctgca gataagctgg gatctaccca gatcgtgaag atcctaactc 1100

aggacactcc cgagtttttt atagaccaag gccatgccaa ggtggcccaa 1150

ctgatcgtgc tggaagtgtt tccctccagt gaagccctcc gccctttgtt 1200

caccctgggc atcgaagcca gctcggaagc tcagttttac accaaaggtg 1250

accaacttat actcaacttg aataacatca gctctgatcg gatccagctg 1300

atgaactctg ggattggctg gttccaacct gatgttctga aaaacatcat 1350

cactgagatc atccactcca tcctgctgcc gaaccagaat ggcaaattaa 1400
```

gatctggggt cccagtgtca ttggtgaagg ccttgggatt cgaggcagct 1450

gagtcctcac tgaccaagga tgcccttgtg cttactccag cctccttgtg 1500

gaaacccagc tctcctgtct cccagtgaag acttggatgg cagccatcag 1550

ggaaggctgg gtcccagctg ggagtatggg tgtgagctct atagaccatc 1600

cctctctgca atcaataaac acttgcctgt gaaaaa 1636

<210> 78
<211> 484
<212> PRT
<213> Homo Sapien

<400> 78
```
Met Ala Gly Pro Trp Thr Phe Thr Leu Leu Cys Gly Leu Leu Ala
 1               5                  10                  15

Ala Thr Leu Ile Gln Ala Thr Leu Ser Pro Thr Ala Val Leu Ile
                20                  25                  30

Leu Gly Pro Lys Val Ile Lys Glu Lys Leu Thr Gln Glu Leu Lys
                35                  40                  45

Asp His Asn Ala Thr Ser Ile Leu Gln Gln Leu Pro Leu Leu Ser
                50                  55                  60

Ala Met Arg Glu Lys Pro Ala Gly Gly Ile Pro Val Leu Gly Ser
                65                  70                  75

Leu Val Asn Thr Val Leu Lys His Ile Ile Trp Leu Lys Val Ile
                80                  85                  90

Thr Ala Asn Ile Leu Gln Leu Gln Val Lys Pro Ser Ala Asn Asp
                95                  100                 105

Gln Glu Leu Leu Val Lys Ile Pro Leu Asp Met Val Ala Gly Phe
                110                 115                 120

Asn Thr Pro Leu Val Lys Thr Ile Val Glu Phe His Met Thr Thr
                125                 130                 135

Glu Ala Gln Ala Thr Ile Arg Met Asp Thr Ser Ala Ser Gly Pro
                140                 145                 150

Thr Arg Leu Val Leu Ser Asp Cys Ala Thr Ser His Gly Ser Leu
                155                 160                 165

Arg Ile Gln Leu Leu Tyr Lys Leu Ser Phe Leu Val Asn Ala Leu
                170                 175                 180

Ala Lys Gln Val Met Asn Leu Leu Val Pro Ser Leu Pro Asn Leu
                185                 190                 195

Val Lys Asn Gln Leu Cys Pro Val Ile Glu Ala Ser Phe Asn Gly
```

```
                    200                      205                      210

Met Tyr Ala Asp Leu Leu Gln Leu Val Lys Val Pro Ile Ser Leu
                215                      220                      225

Ser Ile Asp Arg Leu Glu Phe Asp Leu Leu Tyr Pro Ala Ile Lys
                230                      235                      240

Gly Asp Thr Ile Gln Leu Tyr Leu Gly Ala Lys Leu Leu Asp Ser
                245                      250                      255

Gln Gly Lys Val Thr Lys Trp Phe Asn Asn Ser Ala Ala Ser Leu
                260                      265                      270

Thr Met Pro Thr Leu Asp Asn Ile Pro Phe Ser Leu Ile Val Ser
                275                      280                      285

Gln Asp Val Val Lys Ala Ala Val Ala Ala Val Leu Ser Pro Glu
                290                      295                      300

Glu Phe Met Val Leu Leu Asp Ser Val Leu Pro Glu Ser Ala His
                305                      310                      315

Arg Leu Lys Ser Ser Ile Gly Leu Ile Asn Glu Lys Ala Ala Asp
                320                      325                      330

Lys Leu Gly Ser Thr Gln Ile Val Lys Ile Leu Thr Gln Asp Thr
                335                      340                      345

Pro Glu Phe Phe Ile Asp Gln Gly His Ala Lys Val Ala Gln Leu
                350                      355                      360

Ile Val Leu Glu Val Phe Pro Ser Ser Glu Ala Leu Arg Pro Leu
                365                      370                      375

Phe Thr Leu Gly Ile Glu Ala Ser Ser Glu Ala Gln Phe Tyr Thr
                380                      385                      390

Lys Gly Asp Gln Leu Ile Leu Asn Leu Asn Asn Ile Ser Ser Asp
                395                      400                      405

Arg Ile Gln Leu Met Asn Ser Gly Ile Gly Trp Phe Gln Pro Asp
                410                      415                      420

Val Leu Lys Asn Ile Ile Thr Glu Ile Ile His Ser Ile Leu Leu
                425                      430                      435

Pro Asn Gln Asn Gly Lys Leu Arg Ser Gly Val Pro Val Ser Leu
                440                      445                      450

Val Lys Ala Leu Gly Phe Glu Ala Ala Glu Ser Ser Leu Thr Lys
                455                      460                      465

Asp Ala Leu Val Leu Thr Pro Ala Ser Leu Trp Lys Pro Ser Ser
                470                      475                      480

Pro Val Ser Gln
```

<210> 79
<211> 1475
<212> DNA
<213> Homo Sapien

<400> 79
 gagagaagtc agcctggcag agagactctg aaatgaggga ttagaggtgt 50

 tcaaggagca agagcttcag cctgaagaca agggagcagt ccctgaagac 100

 gcttctactg agaggtctgc catggcctct cttggcctcc aacttgtggg 150

 ctacatccta ggccttctgg ggcttttggg cacactggtt gccatgctgc 200

 tccccagctg gaaaacaagt tcttatgtcg gtgccagcat tgtgacagca 250

 gttggcttct ccaagggcct ctggatggaa tgtgccacac acagcacagg 300

 catcacccag tgtgacatct atagcaccct tctgggcctg cccgctgaca 350

 tccaggctgc ccaggccatg atggtgacat ccagtgcaat ctcctccctg 400

 gcctgcatta tctctgtggt gggcatgaga tgcacagtct tctgccagga 450

 atcccgagcc aaagacagag tggcggtagc aggtggagtc tttttcatcc 500

 ttggaggcct cctgggattc attcctgttg cctggaatct tcatgggatc 550

 ctacgggact tctactcacc actggtgcct gacagcatga aatttgagat 600

 tggagaggct ctttacttgg gcattatttc ttccctgttc tccctgatag 650

 ctggaatcat cctctgcttt tcctgctcat cccagagaaa tcgctccaac 700

 tactacgatg cctaccaagc ccaacctctt gccacaagga gctctccaag 750

 gcctggtcaa cctcccaaag tcaagagtga gttcaattcc tacagcctga 800

 cagggtatgt gtgaagaacc aggggccaga gctgggggt ggctgggtct 850

 gtgaaaaaca gtggacagca ccccgagggc cacaggtgag ggacactacc 900

 actggatcgt gtcagaaggt gctgctgagg atagactgac tttggccatt 950
 ggattgagca aaggcagaaa tgggggctag tgtaacagca tgcaggttga 1000

 attgccaagg atgctcgcca tgccagcctt tctgttttcc tcaccttgct 1050

 gctcccctgc cctaagtccc caaccctcaa cttgaaaccc cattccctta 1100

 agccaggact cagaggatcc ctttgccctc tggtttacct gggactccat 1150

 ccccaaaccc actaatcaca tcccactgac tgaccctctg tgatcaaaga 1200

 ccctctctct ggctgaggtt ggctcttagc tcattgctgg ggatgggaag 1250

gagaagcagt ggctttgtg ggcattgctc taacctactt ctcaagcttc 1300

cctccaaaga aactgattgg ccctggaacc tccatcccac tcttgttatg 1350

actccacagt gtccagacta atttgtgcat gaactgaaat aaaaccatcc 1400

tacggtatcc agggaacaga aagcaggatg caggatggga ggacaggaag 1450

gcagcctggg acatttaaaa aaata 1475

<210> 80
<211> 230 .
<212> PRT
<213> Homo Sapien

<400> 80

```
 Met Ala Ser Leu Gly Leu Gln Leu Val Gly Tyr Ile Leu Gly Leu
  1               5                  10                  15

 Leu Gly Leu Leu Gly Thr Leu Val Ala Met Leu Leu Pro Ser Trp
                  20                  25                  30

 Lys Thr Ser Ser Tyr Val Gly Ala Ser Ile Val Thr Ala Val Gly
                  35                  40                  45

 Phe Ser Lys Gly Leu Trp Met Glu Cys Ala Thr His Ser Thr Gly
                  50                  55                  60

 Ile Thr Gln Cys Asp Ile Tyr Ser Thr Leu Leu Gly Leu Pro Ala
                  65                  70                  75

 Asp Ile Gln Ala Ala Gln Ala Met Met Val Thr Ser Ser Ala Ile
                  80                  85                  90

 Ser Ser Leu Ala Cys Ile Ile Ser Val Val Gly Met Arg Cys Thr
                  95                 100                 105

 Val Phe Cys Gln Glu Ser Arg Ala Lys Asp Arg Val Ala Val Ala
                 110                 115                 120

 Gly Gly Val Phe Phe Ile Leu Gly Gly Leu Leu Gly Phe Ile Pro
                 125                 130                 135

 Val Ala Trp Asn Leu His Gly Ile Leu Arg Asp Phe Tyr Ser Pro
                 140                 145                 150

 Leu Val Pro Asp Ser Met Lys Phe Glu Ile Gly Glu Ala Leu Tyr
                 155                 160                 165
 Leu Gly Ile Ile Ser Ser Leu Phe Ser Leu Ile Ala Gly Ile Ile
                 170                 175                 180

 Leu Cys Phe Ser Cys Ser Ser Gln Arg Asn Arg Ser Asn Tyr Tyr
                 185                 190                 195

 Asp Ala Tyr Gln Ala Gln Pro Leu Ala Thr Arg Ser Ser Pro Arg
                 200                 205                 210
```

Pro Gly Gln Pro Pro Lys Val Lys Ser Glu Phe Asn Ser Tyr Ser
                215   220   225

Leu Thr Gly Tyr Val
                230

<210> 81
<211> 1732
<212> DNA
<213> Homo Sapien

<400> 81
 cccacgcgtc cgcgcctctc ccttctgctg gaccttcctt cgtctctcca 50

 tctctccctc ctttccccgc gttctctttc cacctttctc ttcttcccac 100

 cttagacctc ccttcctgcc ctcctttcct gcccaccgct gcttcctggc 150

 ccttctccga ccccgctcta gcagcagacc tcctggggtc tgtgggttga 200

 tctgtggccc ctgtgcctcc gtgtcctttt cgtctccctt cctcccgact 250

 ccgctcccgg accagcggcc tgaccctggg gaaaggatgg ttcccgaggt 300

 gagggtcctc tcctccttgc tgggactcgc gctgctctgg ttccccctgg 350

 actcccacgc tcgagcccgc ccagacatgt tctgcctttt ccatgggaag 400

 agatactccc ccggcgagag ctggcacccc tacttggagc cacaaggcct 450

 gatgtactgc ctgcgctgta cctgctcaga gggcgcccat gtgagttgtt 500

 accgcctcca ctgtccgcct gtccactgcc cccagcctgt gacggagcca 550

 cagcaatgct gtcccaagtg tgtggaacct cacactccct ctggactccg 600

 ggccccacca aagtcctgcc agcacaacgg gaccatgtac caacacggag 650

 agatcttcag tgcccatgag ctgttcccct cccgcctgcc caaccagtgt 700

 gtcctctgca gctgcacaga gggccagatc tactgcggcc tcacaacctg 750

 ccccgaacca ggctgcccag cacccctccc actgccagac tcctgctgcc 800

 aagcctgcaa agatgaggca agtgagcaat cggatgaaga ggacagtgtg 850

 cagtcgctcc atggggtgag acatcctcag gatccatgtt ccagtgatgc 900

 tgggagaaag agaggcccgg gcaccccagc ccccactggc ctcagcgccc 950

 ctctgagctt catccctcgc cacttcagac ccaagggagc aggcagcaca 1000
 actgtcaaga tcgtcctgaa ggagaaacat aagaaagcct gtgtgcatgg 1050

 cgggaagacg tactcccacg gggaggtgtg gcacccggcc ttccgtgcct 1100

 tcggcccctt gccctgcatc ctatgcacct gtgaggatgg ccgccaggac 1150

```
tgccagcgtg tgacctgtcc caccgagtac ccctgccgtc accccgagaa 1200

agtggctggg aagtgctgca agatttgccc agaggacaaa gcagaccctg 1250

gccacagtga gatcagttct accaggtgtc ccaaggcacc gggccgggtc 1300

ctcgtccaca catcggtatc cccaagccca gacaacctgc gtcgctttgc 1350

cctggaacac gaggcctcgg acttggtgga gatctacctc tggaagctgg 1400

taaaagatga ggaaactgag gctcagagag gtgaagtacc tggcccaagg 1450

ccacacagcc agaatcttcc acttgactca gatcaagaaa gtcaggaagc 1500

aagacttcca gaaagaggca cagcacttcc gactgctcgc tggcccccac 1550

gaaggtcact ggaacgtctt cctagcccag accctggagc tgaaggtcac 1600

ggccagtcca gacaaagtga ccaagacata acaaagacct aacagttgca 1650

gatatgagct gtataattgt tgttattata tattaataaa taagaagttg 1700

cattaccctc aaaaaaaaaa aaaaaaaaaa aa 1732
```

<210> 82
<211> 451
<212> PRT
<213> Homo Sapien

<400> 82

```
 Met Val Pro Glu Val Arg Val Leu Ser Ser Leu Leu Gly Leu Ala
  1               5                  10                  15

 Leu Leu Trp Phe Pro Leu Asp Ser His Ala Arg Ala Arg Pro Asp
                  20                  25                  30

 Met Phe Cys Leu Phe His Gly Lys Arg Tyr Ser Pro Gly Glu Ser
                  35                  40                  45

 Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met Tyr Cys Leu Arg
                  50                  55                  60

 Cys Thr Cys Ser Glu Gly Ala His Val Ser Cys Tyr Arg Leu His
                  65                  70                  75

 Cys Pro Pro Val His Cys Pro Gln Pro Val Thr Glu Pro Gln Gln
                  80                  85                  90

 Cys Cys Pro Lys Cys Val Glu Pro His Thr Pro Ser Gly Leu Arg
                  95                 100                 105

 Ala Pro Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His
                 110                 115                 120

 Gly Glu Ile Phe Ser Ala His Glu Leu Phe Pro Ser Arg Leu Pro
                 125                 130                 135
```

```
Asn Gln Cys Val Leu Cys Ser Cys Thr Glu Gly Gln Ile Tyr Cys
            140                     145                     150

Gly Leu Thr Thr Cys Pro Glu Pro Gly Cys Pro Ala Pro Leu Pro
            155                     160                     165

Leu Pro Asp Ser Cys Cys Gln Ala Cys Lys Asp Glu Ala Ser Glu
            170                     175                     180

Gln Ser Asp Glu Glu Asp Ser Val Gln Ser Leu His Gly Val Arg
            185                     190                     195

His Pro Gln Asp Pro Cys Ser Ser Asp Ala Gly Arg Lys Arg Gly
            200                     205                     210

Pro Gly Thr Pro Ala Pro Thr Gly Leu Ser Ala Pro Leu Ser Phe
            215                     220                     225

Ile Pro Arg His Phe Arg Pro Lys Gly Ala Gly Ser Thr Thr Val
            230                     235                     240

Lys Ile Val Leu Lys Glu Lys His Lys Lys Ala Cys Val His Gly
            245                     250                     255

Gly Lys Thr Tyr Ser His Gly Glu Val Trp His Pro Ala Phe Arg
            260                     265                     270

Ala Phe Gly Pro Leu Pro Cys Ile Leu Cys Thr Cys Glu Asp Gly
            275                     280                     285

Arg Gln Asp Cys Gln Arg Val Thr Cys Pro Thr Glu Tyr Pro Cys
            290                     295                     300

Arg His Pro Glu Lys Val Ala Gly Lys Cys Cys Lys Ile Cys Pro
            305                     310                     315

Glu Asp Lys Ala Asp Pro Gly His Ser Glu Ile Ser Ser Thr Arg
            320                     325                     330

Cys Pro Lys Ala Pro Gly Arg Val Leu Val His Thr Ser Val Ser
            335                     340                     345

Pro Ser Pro Asp Asn Leu Arg Arg Phe Ala Leu Glu His Glu Ala
            350                     355                     360

Ser Asp Leu Val Glu Ile Tyr Leu Trp Lys Leu Val Lys Asp Glu
            365                     370                     375

Glu Thr Glu Ala Gln Arg Gly Glu Val Pro Gly Pro Arg Pro His
            380                     385                     390

Ser Gln Asn Leu Pro Leu Asp Ser Asp Gln Glu Ser Gln Glu Ala
            395                     400                     405

Arg Leu Pro Glu Arg Gly Thr Ala Leu Pro Thr Ala Arg Trp Pro
            410                     415                     420
```

```
    Pro Arg Arg Ser Leu Glu Arg Leu Pro Ser Pro Asp Pro Gly Ala
                  425                 430                 435

    Glu Gly His Gly Gln Ser Arg Gln Ser Asp Gln Asp Ile Thr Lys
                  440                 445                 450

    Thr


<210> 83
<211> 2052
<212> DNA
<213> Homo Sapien

<400> 83
 gacagctgtg tctcgatgga gtagactctc agaacagcgc agtttgccct 50

 ccgctcacgc agagcctctc cgtggcttcc gcaccttgag cattaggcca 100

 gttctcctct tctctctaat ccatccgtca cctctcctgt catccgtttc 150

 catgccgtga ggtccattca cagaacacat ccatggctct catgctcagt 200

 ttggttctga gtctcctcaa gctgggatca gggcagtggc aggtgtttgg 250

 gccagacaag cctgtccagg ccttggtggg ggaggacgca gcattctcct 300

 gtttcctgtc tcctaagacc aatgcagagg ccatggaagt gcggttcttc 350

 aggggccagt tctctagcgt ggtccacctc tacagggacg ggaaggacca 400

 gccatttatg cagatgccac agtatcaagg caggacaaaa ctggtgaagg 450

 attctattgc ggaggggcgc atctctctga ggctggaaaa cattactgtg 500

 ttggatgctg gcctctatgg gtgcaggatt agttcccagt cttactacca 550

 gaaggccatc tgggagctac aggtgtcagc actgggctca gttcctctca 600

 tttccatcac gggatatgtt gatagagaca tccagctact ctgtcagtcc 650

 tcgggctggt ccccccggcc cacagcgaag tggaaaggtc cacaaggaca 700

 ggatttgtcc acagactcca ggacaaacag agacatgcat ggcctgtttg 750

 atgtggagat ctctctgacc gtccaagaga cgccgggag catatcctgt 800

 tccatgcggc atgctcatct gagccgagag gtggaatcca gggtacagat 850

 aggagatacc tttttcgagc ctatatcgtg gcacctggct accaaagtac 900

 tgggaatact ctgctgtggc ctattttttg gcattgttgg actgaagatt 950

 ttcttctcca aattccagtg gaaaatccag gcggaactgg actggagaag 1000

 aaagcacgga caggcagaat tgagagacgc ccggaaacac gcagtggagg 1050
```

```
tgactctgga tccagagacg gctcacccga agctctgcgt ttctgatctg 1100

aaaactgtaa cccatagaaa agctccccag gaggtgcctc actctgagaa 1150
gagatttaca aggaagagtg tggtggcttc tcagagtttc caagcaggga 1200

aacattactg ggaggtggac ggaggacaca ataaaaggtg cgcgtggga 1250

gtgtgccggg atgatgtgga caggaggaag gagtacgtga ctttgtctcc 1300

cgatcatggg tactgggtcc tcagactgaa tggagaacat ttgtatttca 1350

cattaaatcc ccgtttttatc agcgtcttcc ccaggacccc acctacaaaa 1400

atagggggtct tcctggacta tgagtgtggg accatctcct tcttcaacat 1450

aaatgaccag tcccttattt ataccctgac atgtcggttt gaaggcttat 1500

tgaggcccta cattgagtat ccgtcctata atgagcaaaa tggaactccc 1550

atagtcatct gcccagtcac ccaggaatca gagaaagagg cctcttggca 1600

aagggcctct gcaatcccag agacaagcaa cagtgagtcc tcctcacagg 1650

caaccacgcc cttcctcccc aggggtgaaa tgtaggatga atcacatccc 1700

acattcttct ttagggatat taaggtctct ctcccagatc caaagtcccg 1750

cagcagccgg ccaaggtggc ttccagatga aggggggactg gcctgtccac 1800

atgggagtca ggtgtcatgg ctgccctgag ctgggaggga agaaggctga 1850

cattacattt agtttgctct cactccatct ggctaagtga tcttgaaata 1900

ccacctctca ggtgaagaac cgtcaggaat tcccatctca caggctgtgg 1950

tgtagattaa gtagacaagg aatgtgaata atgcttagat cttattgatg 2000

acagagtgta tcctaatggt ttgttcatta tattcacactt tcagtaaaaa 2050

aa 2052
```

<210> 84
<211> 500
<212> PRT
<213> Homo Sapien

<400> 84

```
Met Ala Leu Met Leu Ser Leu Val Leu Ser Leu Leu Lys Leu Gly
1               5                   10                  15

Ser Gly Gln Trp Gln Val Phe Gly Pro Asp Lys Pro Val Gln Ala
                20                  25                  30

Leu Val Gly Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys
                35                  40                  45

Thr Asn Ala Glu Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe
```

```
                    50                      55                      60
Ser Ser Val Val His Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe
                    65                      70                      75

Met Gln Met Pro Gln Tyr Gln Gly Arg Thr Lys Leu Val Lys Asp
                    80                      85                      90

Ser Ile Ala Glu Gly Arg Ile Ser Leu Arg Leu Glu Asn Ile Thr
                    95                     100                     105

Val Leu Asp Ala Gly Leu Tyr Gly Cys Arg Ile Ser Ser Gln Ser
                   110                     115                     120

Tyr Tyr Gln Lys Ala Ile Trp Glu Leu Gln Val Ser Ala Leu Gly
                   125                     130                     135

Ser Val Pro Leu Ile Ser Ile Thr Gly Tyr Val Asp Arg Asp Ile
                   140                     145                     150

Gln Leu Leu Cys Gln Ser Ser Gly Trp Phe Pro Arg Pro Thr Ala
                   155                     160                     165

Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Thr Asp Ser Arg
                   170                     175                     180

Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu Ile Ser Leu
                   185                     190                     195

Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met Arg His
                   200                     205                     210

Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly Asp
                   215                     220                     225

Thr Phe Phe Glu Pro Ile Ser Trp His Leu Ala Thr Lys Val Leu
                   230                     235                     240

Gly Ile Leu Cys Cys Gly Leu Phe Phe Gly Ile Val Gly Leu Lys
                   245                     250                     255

Ile Phe Phe Ser Lys Phe Gln Trp Lys Ile Gln Ala Glu Leu Asp
                   260                     265                     270

Trp Arg Arg Lys His Gly Gln Ala Glu Leu Arg Asp Ala Arg Lys
                   275                     280                     285

His Ala Val Glu Val Thr Leu Asp Pro Glu Thr Ala His Pro Lys
                   290                     295                     300

Leu Cys Val Ser Asp Leu Lys Thr Val Thr His Arg Lys Ala Pro
                   305                     310                     315

Gln Glu Val Pro His Ser Glu Lys Arg Phe Thr Arg Lys Ser Val
                   320                     325                     330

Val Ala Ser Gln Ser Phe Gln Ala Gly Lys His Tyr Trp Glu Val
```

```
Asp Gly Gly His Asn Lys Arg Trp Arg Val Gly Val Cys Arg Asp
            350                 355                 360

Asp Val Asp Arg Arg Lys Glu Tyr Val Thr Leu Ser Pro Asp His
            365                 370                 375

Gly Tyr Trp Val Leu Arg Leu Asn Gly Glu His Leu Tyr Phe Thr
            380                 385                 390

Leu Asn Pro Arg Phe Ile Ser Val Phe Pro Arg Thr Pro Pro Thr
            395                 400                 405

Lys Ile Gly Val Phe Leu Asp Tyr Glu Cys Gly Thr Ile Ser Phe
            410                 415                 420

Phe Asn Ile Asn Asp Gln Ser Leu Ile Tyr Thr Leu Thr Cys Arg
            425                 430                 435

Phe Glu Gly Leu Leu Arg Pro Tyr Ile Glu Tyr Pro Ser Tyr Asn
            440                 445                 450

Glu Gln Asn Gly Thr Pro Ile Val Ile Cys Pro Val Thr Gln Glu
            455                 460                 465

Ser Glu Lys Glu Ala Ser Trp Gln Arg Ala Ser Ala Ile Pro Glu
            470                 475                 480

Thr Ser Asn Ser Glu Ser Ser Ser Gln Ala Thr Thr Pro Phe Leu
            485                 490                 495

Pro Arg Gly Glu Met
            500
```

<210> 85
<211> 1665
<212> DNA
<213> Homo Sapien

<400> 85

```
aacagacgtt ccctcgcggc cctggcacct ctaaccccag acatgctgct 50

gctgctgctg cccctgctct gggggaggga gagggcggaa ggacagacaa 100

gtaaactgct gacgatgcag agttccgtga cggtgcagga aggcctgtgt 150

gtccatgtgc cctgctcctt ctcctacccc tcgcatggct ggatttaccc 200

tggcccagta gttcatggct actggttccg ggaagggggcc aatacagacc 250

aggatgctcc agtggccaca aacaacccag ctcgggcagt gtgggaggag 300

actcgggacc gattccacct ccttggggac ccacatacca agaattgcac 350

cctgagcatc agagatgcca gaagaagtga tgcgggggaga tacttctttc 400
```

```
gtatggagaa aggaagtata aaatggaatt ataaacatca ccggctctct 450

gtgaatgtga cagccttgac ccacaggccc aacatcctca tcccaggcac 500

cctggagtcc ggctgccccc agaatctgac ctgctctgtg ccctgggcct 550

gtgagcaggg gacacccect atgatctcct ggatagggac ctccgtgtcc 600

cccctggacc cctccaccac ccgctcctcg gtgctcaccc tcatcccaca 650

gccccaggac catggcacca gcctcacctg tcaggtgacc ttccctgggg 700

ccagcgtgac cacgaacaag accgtccatc tcaacgtgtc ctacccgcct 750

cagaacttga ccatgactgt cttccaagga cacggcacag tatccacagt 800

cttgggaaat ggctcatctc tgtcactccc agagggccag tctctgcgcc 850

tggtctgtgc agttgatgca gttgacagca atcccctgc caggctgagc 900

ctgagctgga gaggcctgac cctgtgcccc tcacagccct caaacccggg 950

ggtgctggag ctgccttggg tgcacctgag ggatgcagct gaattcacct 1000

gcagagctca gaaccctctc ggctctcagc aggtctacct gaacgtctcc 1050

ctgcagagca aagccacatc aggagtgact caggggtgg tcggggagc 1100

tggagccaca gccctggtct tcctgtcctt ctgcgtcatc ttcgttgtag 1150

tgaggtcctg caggaagaaa tcggcaaggc cagcagcggg cgtgggagat 1200

acgggcatag aggatgcaaa cgctgtcagg ggttcagcct ctcaggggcc 1250

cctgactgaa ccttgggcag aagacagtcc cccagaccag cctcccccag 1300

cttctgcccg ctcctcagtg ggggaaggag agctccagta tgcatccctc 1350

agcttccaga tggtgaagcc ttgggactcg cggggacagg aggccactga 1400

caccgagtac tcggagatca agatccacag atgagaaact gcagagactc 1450

accctgattg agggatcaca gcccctccag gcaagggaga agtcagaggc 1500

tgattcttgt agaattaaca gccctcaacg tgatgagcta tgataacact 1550

atgaattatg tgcagagtga aaagcacaca ggctttagag tcaaagtatc 1600

tcaaacctga atccacactg tgccctccct tttatttttt taactaaaag 1650

acagacaaat tccta 1665
```

<210> 86
<211> 463
<212> PRT
<213> Homo Sapien

<400> 86

```
Met Leu Leu Leu Leu Leu Pro Leu Leu Trp Gly Arg Glu Arg Ala
  1               5                  10                  15

Glu Gly Gln Thr Ser Lys Leu Leu Thr Met Gln Ser Ser Val Thr
             20                  25                  30

Val Gln Glu Gly Leu Cys Val His Val Pro Cys Ser Phe Ser Tyr
             35                  40                  45

Pro Ser His Gly Trp Ile Tyr Pro Gly Pro Val Val His Gly Tyr
             50                  55                  60

Trp Phe Arg Glu Gly Ala Asn Thr Asp Gln Asp Ala Pro Val Ala
             65                  70                  75
Thr Asn Asn Pro Ala Arg Ala Val Trp Glu Glu Thr Arg Asp Arg
             80                  85                  90

Phe His Leu Leu Gly Asp Pro His Thr Lys Asn Cys Thr Leu Ser
             95                 100                 105

Ile Arg Asp Ala Arg Arg Ser Asp Ala Gly Arg Tyr Phe Phe Arg
            110                 115                 120

Met Glu Lys Gly Ser Ile Lys Trp Asn Tyr Lys His His Arg Leu
            125                 130                 135

Ser Val Asn Val Thr Ala Leu Thr His Arg Pro Asn Ile Leu Ile
            140                 145                 150

Pro Gly Thr Leu Glu Ser Gly Cys Pro Gln Asn Leu Thr Cys Ser
            155                 160                 165

Val Pro Trp Ala Cys Glu Gln Gly Thr Pro Pro Met Ile Ser Trp
            170                 175                 180

Ile Gly Thr Ser Val Ser Pro Leu Asp Pro Ser Thr Thr Arg Ser
            185                 190                 195

Ser Val Leu Thr Leu Ile Pro Gln Pro Gln Asp His Gly Thr Ser
            200                 205                 210

Leu Thr Cys Gln Val Thr Phe Pro Gly Ala Ser Val Thr Thr Asn
            215                 220                 225

Lys Thr Val His Leu Asn Val Ser Tyr Pro Pro Gln Asn Leu Thr
            230                 235                 240

Met Thr Val Phe Gln Gly Asp Gly Thr Val Ser Thr Val Leu Gly
            245                 250                 255

Asn Gly Ser Ser Leu Ser Leu Pro Glu Gly Gln Ser Leu Arg Leu
            260                 265                 270

Val Cys Ala Val Asp Ala Val Asp Ser Asn Pro Pro Ala Arg Leu
            275                 280                 285
```

```
Ser Leu Ser Trp Arg Gly Leu Thr Leu Cys Pro Ser Gln Pro Ser
            290               295               300

Asn Pro Gly Val Leu Glu Leu Pro Trp Val His Leu Arg Asp Ala
            305               310               315

Ala Glu Phe Thr Cys Arg Ala Gln Asn Pro Leu Gly Ser Gln Gln
            320               325               330

Val Tyr Leu Asn Val Ser Leu Gln Ser Lys Ala Thr Ser Gly Val
            335               340               345

Thr Gln Gly Val Val Gly Gly Ala Gly Ala Thr Ala Leu Val Phe
            350               355               360

Leu Ser Phe Cys Val Ile Phe Val Val Val Arg Ser Cys Arg Lys
            365               370               375

Lys Ser Ala Arg Pro Ala Ala Gly Val Gly Asp Thr Gly Ile Glu
            380               385               390

Asp Ala Asn Ala Val Arg Gly Ser Ala Ser Gln Gly Pro Leu Thr
            395               400               405

Glu Pro Trp Ala Glu Asp Ser Pro Pro Asp Gln Pro Pro Pro Ala
            410               415               420

Ser Ala Arg Ser Ser Val Gly Glu Gly Glu Leu Gln Tyr Ala Ser
            425               430               435

                                    .
Leu Ser Phe Gln Met Val Lys Pro Trp Asp Ser Arg Gly Gln Glu
            440               445               450

Ala Thr Asp Thr Glu Tyr Ser Glu Ile Lys Ile His Arg
            455               460
```

<210> 87
<211> 1176
<212> DNA
<213> Homo Sapien

<400> 87

 agaaagctgc actctgttga gctccagggc gcagtggagg gagggagtga 50

 aggagctctc tgtacccaag gaaagtgcag ctgagactca gacaagatta 100

 caatgaacca actcagcttc ctgctgtttc tcatagcgac caccagagga 150

 tggagtacag atgaggctaa tacttacttc aaggaatgga cctgttcttc 200

 gtctccatct ctgcccagaa gctgcaagga aatcaaagac gaatgtccta 250

 gtgcatttga tggcctgtat tttctccgca ctgagaatgg tgttatctac 300

 cagaccttct gtgacatgac ctctgggggt ggcggctgga ccctggtggc 350

 cagcgtgcat gagaatgaca tgcgtgggaa gtgcacggtg ggcgatcgct 400
```

```
ggtccagtca gcagggcagc aaagcagact acccagaggg ggacggcaac 450

tgggccaact acaacacctt tggatctgca gaggcggcca cgagcgatga 500

ctacaagaac cctggctact acgacatcca ggccaaggac ctgggcatct 550

ggcacgtgcc caataagtcc cccatgcagc actggagaaa cagctccctg 600

ctgaggtacc gcacggacac tggcttcctc cagacactgg gacataatct 650

gtttggcatc taccagaaat atccagtgaa atatggagaa ggaaagtgtt 700

ggactgacaa cggcccggtg atccctgtgg tctatgattt tggcgacgcc 750

cagaaaacag catcttatta ctcaccctat ggccagcggg aattcactgc 800

gggatttgtt cagttcaggg tatttaataa cgagagagca gccaacgcct 850

tgtgtgctgg aatgagggtc accggatgta acactgagca tcactgcatt 900

ggtggaggag gatactttcc agaggccagt ccccagcagt gtggagattt 950

ttctggtttt gattggagtg gatatggaac tcatgttggt tacagcagca 1000

gccgtgagat aactgaggca gctgtgcttc tattctatcg ttgagagttt 1050

tgtgggaggg aacccagacc tctcctccca accatgagat cccaaggatg 1100

gagaacaact acccagtag ctagaatgtt aatggcagaa gagaaaacaa 1150

taaatcatat tgactcaaga aaaaaa 1176
```

<210> 88
<211> 313
<212> PRT
<213> Homo Sapien

<400> 88

```
 Met Asn Gln Leu Ser Phe Leu Leu Phe Leu Ile Ala Thr Thr Arg
  1               5                  10                  15

 Gly Trp Ser Thr Asp Glu Ala Asn Thr Tyr Phe Lys Glu Trp Thr
                  20                  25                  30

 Cys Ser Ser Ser Pro Ser Leu Pro Arg Ser Cys Lys Glu Ile Lys
                  35                  40                  45

 Asp Glu Cys Pro Ser Ala Phe Asp Gly Leu Tyr Phe Leu Arg Thr
                  50                  55                  60

 Glu Asn Gly Val Ile Tyr Gln Thr Phe Cys Asp Met Thr Ser Gly
                  65                  70                  75

 Gly Gly Gly Trp Thr Leu Val Ala Ser Val His Glu Asn Asp Met
                  80                  85                  90
```

```
Arg Gly Lys Cys Thr Val Gly Asp Arg Trp Ser Ser Gln Gln Gly
              95              100                 105

Ser Lys Ala Asp Tyr Pro Glu Gly Asp Gly Asn Trp Ala Asn Tyr
              110             115                 120

Asn Thr Phe Gly Ser Ala Glu Ala Ala Thr Ser Asp Asp Tyr Lys
              125             130                 135

Asn Pro Gly Tyr Tyr Asp Ile Gln Ala Lys Asp Leu Gly Ile Trp
              140             145                 150

His Val Pro Asn Lys Ser Pro Met Gln His Trp Arg Asn Ser Ser
              155             160                 165

Leu Leu Arg Tyr Arg Thr Asp Thr Gly Phe Leu Gln Thr Leu Gly
              170             175                 180

His Asn Leu Phe Gly Ile Tyr Gln Lys Tyr Pro Val Lys Tyr Gly
              185             190                 195

Glu Gly Lys Cys Trp Thr Asp Asn Gly Pro Val Ile Pro Val Val
              200             205                 210

Tyr Asp Phe Gly Asp Ala Gln Lys Thr Ala Ser Tyr Tyr Ser Pro
              215             220                 225

Tyr Gly Gln Arg Glu Phe Thr Ala Gly Phe Val Gln Phe Arg Val
              230             235                 240

Phe Asn Asn Glu Arg Ala Ala Asn Ala Leu Cys Ala Gly Met Arg
              245             250                 255

Val Thr Gly Cys Asn Thr Glu His His Cys Ile Gly Gly Gly Gly
              260             265                 270

Tyr Phe Pro Glu Ala Ser Pro Gln Gln Cys Gly Asp Phe Ser Gly
              275             280                 285

Phe Asp Trp Ser Gly Tyr Gly Thr His Val Gly Tyr Ser Ser Ser
              290             295                 300

Arg Glu Ile Thr Glu Ala Ala Val Leu Leu Phe Tyr Arg
              305             310
```

<210> 89
<211> 759
<212> DNA
<213> Homo Sapien

<400> 89
 ctagatttgt cggcttgcgg ggagacttca ggagtcgctg tctctgaact 50

 tccagcctca gagaccgccg cccttgtccc cgagggccat gggccgggtc 100

 tcagggcttg tgccctctcg cttcctgacg ctcctggcgc atctggtggt 150

```
cgtcatcacc ttattctggt cccgggacag caacatacag gcctgcctgc 200

ctctcacgtt cacccccgag gagtatgaca agcaggacat tcagctggtg 250

gccgcgctct ctgtcaccct gggcctcttt gcagtggagc tggccggttt 300

cctctcagga gtctccatgt tcaacagcac ccagagcctc atctccattg 350

gggctcactg tagtgcatcc gtggccctgt ccttcttcat attcgagcgt 400

tgggagtgca ctacgtattg gtacattttt gtcttctgca gtgcccttcc 450

agctgtcact gaaatggctt tattcgtcac cgtctttggg ctgaaaaaga 500

aacccttctg attaccttca tgacgggaac ctaaggacga gcctacagg 550

ggcaagggcc gcttcgtatt cctggaagaa ggaaggcata ggcttcggtt 600

ttcccctcgg aaactgcttc tgctggagga tatgtgttgg aataattacg 650

tcttgagtct gggattatcc gcattgtatt tagtgctttg taataaaata 700

tgttttgtag taacattaag acttatatac agttttaggg gacaattaaa 750

aaaaaaaaa 759
```

<210> 90
<211> 140
<212> PRT
<213> Homo Sapien

<400> 90

```
 Met Gly Arg Val Ser Gly Leu Val Pro Ser Arg Phe Leu Thr Leu
  1               5                  10                  15

 Leu Ala His Leu Val Val Val Ile Thr Leu Phe Trp Ser Arg Asp
                 20                  25                  30

 Ser Asn Ile Gln Ala Cys Leu Pro Leu Thr Phe Thr Pro Glu Glu
                 35                  40                  45

 Tyr Asp Lys Gln Asp Ile Gln Leu Val Ala Ala Leu Ser Val Thr
                 50                  55                  60

 Leu Gly Leu Phe Ala Val Glu Leu Ala Gly Phe Leu Ser Gly Val
                 65                  70                  75

 Ser Met Phe Asn Ser Thr Gln Ser Leu Ile Ser Ile Gly Ala His
                 80                  85                  90

 Cys Ser Ala Ser Val Ala Leu Ser Phe Phe Ile Phe Glu Arg Trp
                 95                 100                 105

 Glu Cys Thr Thr Tyr Trp Tyr Ile Phe Val Phe Cys Ser Ala Leu
                110                 115                 120

 Pro Ala Val Thr Glu Met Ala Leu Phe Val Thr Val Phe Gly Leu
```

Lys Lys Lys Pro Phe
                140

<210> 91
<211> 1871
<212> DNA
<213> Homo Sapien

<400> 91
ctgggacccc gaaaagagaa ggggagagcg aggggacgag agcggaggag 50

gaagatgcaa ctgactcgct gctgcttcgt gttcctggtg cagggtagcc 100

tctatctggt catctgtggc caggatgatg gtcctcccgg ctcagaggac 150

cctgagcgtg atgaccacga gggccagccc cggccccggg tgcctcggaa 200

gcggggccac atctcaccta agtcccgccc catggccaat tccactctcc 250

tagggctgct ggccccgcct ggggaggctt ggggcattct tgggcagccc 300

cccaaccgcc cgaaccacag ccccccaccc tcagccaagg tgaagaaaat 350

ctttggctgg ggcgacttct actccaacat caagacggtg gccctgaacc 400

tgctcgtcac agggaagatt gtggaccatg caatgggac cttcagcgtc 450

cacttccaac acaatgccac aggccaggga aacatctcca tcagcctcgt 500
gcccccagt aaagctgtag agttccacca ggaacagcag atcttcatcg 550

aagccaaggc ctccaaaatc ttcaactgcc ggatggagtg ggagaaggta 600

gaacggggcc gccggacctc gctttgcacc cacgacccag ccaagatctg 650

ctcccgagac cacgctcaga gctcagccac ctggagctgc tcccagccct 700

tcaaagtcgt ctgtgtctac atcgccttct acagcacgga ctatcggctg 750

gtccagaagg tgtgcccaga ttacaactac catagtgata cccctacta 800

cccatctggg tgacccgggg caggccacag aggccaggcc agggctggaa 850

ggacaggcct gcccatgcag gagaccatct ggacaccggg cagggaaggg 900

gttgggcctc aggcagggag ggggtggag acgaggagat gccaagtggg 950

gccagggcca agtctcaagt ggcagagaaa gggtcccaag tgctggtccc 1000

aacctgaagc tgtggagtga ctagatcaca ggagcactgg aggaggagtg 1050

ggctctctgt gcagcctcac agggctttgc cacggagcca cagagagatg 1100

ctgggtcccc gaggcctgtg ggcaggccga tcagtgtggc cccagatcaa 1150

gtcatgggag gaagctaagc ccttggttct tgccatcctg aggaaagata 1200

```
gcaacaggga gggggagatt tcatcagtgt ggacagcctg tcaacttagg 1250

atggatggct gagagggctt cctaggagcc agtcagcagg gtggggtggg 1300

gccagaggag ctctccagcc ctgcctagtg ggcgccctga gccccttgtc 1350

gtgtgctgag catggcatga ggctgaagtg gcaaccctgg ggtctttgat 1400

gtcttgacag attgaccatc tgtctccagc caggccaccc ctttccaaaa 1450

ttccctcttc tgccagtact cccctgtac cacccattgc tgatggcaca 1500

cccatcctta agctaagaca ggacgattgt ggtcctccca cactaaggcc 1550

acagcccatc cgcgtgctgt gtgtccctct tccacccaa cccctgctgg 1600

ctcctctggg agcatccatg tcccggagag gggtccctca acagtcagcc 1650

tcacctgtca gaccgggttt ctcccggatc tggatggcgc cgccctctca 1700

gcagcgggca cgggtggggc ggggccgggc cgcagagcat gtgctggatc 1750

tgttctgtgt gtctgtctgt gggtggggg agggaggga agtcttgtga 1800

aaccgctgat tgctgacttt tgtgtgaaga atcgtgttct tggagcagga 1850

aataaagctt gccccggggc a 1871
```

<210> 92
<211> 252
<212> PRT
<213> Homo Sapien
<400> 92

```
 Met Gln Leu Thr Arg Cys Cys Phe Val Phe Leu Val Gln Gly Ser
  1               5                  10                  15

 Leu Tyr Leu Val Ile Cys Gly Gln Asp Asp Gly Pro Pro Gly Ser
                 20                  25                  30

 Glu Asp Pro Glu Arg Asp Asp His Glu Gly Gln Pro Arg Pro Arg
                 35                  40                  45

 Val Pro Arg Lys Arg Gly His Ile Ser Pro Lys Ser Arg Pro Met
                 50                  55                  60

 Ala Asn Ser Thr Leu Leu Gly Leu Leu Ala Pro Pro Gly Glu Ala
                 65                  70                  75

 Trp Gly Ile Leu Gly Gln Pro Pro Asn Arg Pro Asn His Ser Pro
                 80                  85                  90

 Pro Pro Ser Ala Lys Val Lys Lys Ile Phe Gly Trp Gly Asp Phe
                 95                  100                 105

 Tyr Ser Asn Ile Lys Thr Val Ala Leu Asn Leu Leu Val Thr Gly
                 110                 115                 120
```

```
Lys Ile Val Asp His Gly Asn Gly Thr Phe Ser Val His Phe Gln
                125                 130                 135

His Asn Ala Thr Gly Gln Gly Asn Ile Ser Ile Ser Leu Val Pro
                140                 145                 150

Pro Ser Lys Ala Val Glu Phe His Gln Glu Gln Gln Ile Phe Ile
                155                 160                 165

Glu Ala Lys Ala Ser Lys Ile Phe Asn Cys Arg Met Glu Trp Glu
                170                 175                 180

Lys Val Glu Arg Gly Arg Arg Thr Ser Leu Cys Thr His Asp Pro
                185                 190                 195

Ala Lys Ile Cys Ser Arg Asp His Ala Gln Ser Ser Ala Thr Trp
                200                 205                 210

Ser Cys Ser Gln Pro Phe Lys Val Val Cys Val Tyr Ile Ala Phe
                215                 220                 225

Tyr Ser Thr Asp Tyr Arg Leu Val Gln Lys Val Cys Pro Asp Tyr
                230                 235                 240

Asn Tyr His Ser Asp Thr Pro Tyr Tyr Pro Ser Gly
                245                 250
```

<210> 93
<211> 902
<212> DNA
<213> Homo Sapien

<400> 93

```
cggtggccat gactgcggcc gtgttcttcg gctgcgcctt cattgccttc  50

gggcctgcgc tcgccctttta tgtcttcacc atcgccatcg agccgttgcg 100

tatcatcttc ctcatcgccg gagctttctt ctggttggtg tctctactga 150

tttcgtccct tgtttggttc atggcaagag tcattattga caacaaagat 200

ggaccaacac agaaatatct gctgatcttt ggagcgtttg tctctgtcta 250

tatccaagaa atgttccgat ttgcatatta taaactctta aaaaaagcca 300

gtgaaggttt gaagagtata aacccaggtg agacagcacc ctctatgcga 350

ctgctggcct atgtttctgg cttgggcttt ggaatcatga gtggagtatt 400

ttcctttgtg aataccctat ctgactcctt ggggccaggc acagtgggca 450

ttcatggaga ttctcctcaa ttcttccttt attcagcttt catgacgctg 500

gtcattatct gctgcatgt attctggggc attgtatttt ttgatggctg 550

tgagaagaaa aagtggggca tcctccttat cgttctcctg acccacctgc 600
```

```
tggtgtcagc ccagaccttc ataagttctt attatggaat aaacctggcg 650

tcagcattta taatcctggt gctcatgggc acctgggcat tcttagctgc 700

gggaggcagc tgccgaagcc tgaaactctg cctgctctgc caagacaaga 750

actttcttct ttacaaccag cgctccagat aacctcaggg aaccagcact 800

tcccaaaccg cagactacat ctttagagga agcacaactg tgcctttttc 850

tgaaaatccc tttttctggt ggaattgaga aagaaataaa actatgcaga 900

ta 902
```

<210> 94
<211> 257
<212> PRT
<213> Homo Sapien

<400> 94

```
Met Thr Ala Ala Val Phe Phe Gly Cys Ala Phe Ile Ala Phe Gly
 1               5                  10                  15

Pro Ala Leu Ala Leu Tyr Val Phe Thr Ile Ala Ile Glu Pro Leu
                20                  25                  30

Arg Ile Ile Phe Leu Ile Ala Gly Ala Phe Phe Trp Leu Val Ser
                35                  40                  45

Leu Leu Ile Ser Ser Leu Val Trp Phe Met Ala Arg Val Ile Ile
                50                  55                  60

Asp Asn Lys Asp Gly Pro Thr Gln Lys Tyr Leu Leu Ile Phe Gly
                65                  70                  75

Ala Phe Val Ser Val Tyr Ile Gln Glu Met Phe Arg Phe Ala Tyr
                80                  85                  90

Tyr Lys Leu Leu Lys Lys Ala Ser Glu Gly Leu Lys Ser Ile Asn
                95                  100                 105

Pro Gly Glu Thr Ala Pro Ser Met Arg Leu Leu Ala Tyr Val Ser
                110                 115                 120

Gly Leu Gly Phe Gly Ile Met Ser Gly Val Phe Ser Phe Val Asn
                125                 130                 135

Thr Leu Ser Asp Ser Leu Gly Pro Gly Thr Val Gly Ile His Gly
                140                 145                 150

Asp Ser Pro Gln Phe Phe Leu Tyr Ser Ala Phe Met Thr Leu Val
                155                 160                 165

Ile Ile Leu Leu His Val Phe Trp Gly Ile Val Phe Phe Asp Gly
                170                 175                 180
```

Cys Glu Lys Lys Lys Trp Gly Ile Leu Leu Ile Val Leu Leu Thr
                185   190   195

His Leu Leu Val Ser Ala Gln Thr Phe Ile Ser Ser Tyr Tyr Gly
                200   205   210

Ile Asn Leu Ala Ser Ala Phe Ile Ile Leu Val Leu Met Gly Thr
                215   220   225

Trp Ala Phe Leu Ala Ala Gly Gly Ser Cys Arg Ser Leu Lys Leu
                230   235   240

Cys Leu Leu Cys Gln Asp Lys Asn Phe Leu Leu Tyr Asn Gln Arg
                245   250   255

Ser Arg

<210> 95
<211> 1073
<212> DNA
<213> Homo Sapien

<400> 95
 aatttttcac cagagtaaac ttgagaaacc aactggacct tgagtattgt 50

 acattttgcc tcgtggaccc aaaggtagca atctgaaaca tgaggagtac 100

 gattctactg ttttgtcttc taggatcaac tcggtcatta ccacagctca 150

 aacctgcttt gggactccct cccacaaaac tggctccgga tcagggaaca 200

 ctaccaaacc aacagcagtc aaatcaggtc tttccttctt taagtctgat 250

 accattaaca cagatgctca cactggggcc agatctgcat ctgttaaatc 300

 ctgctgcagg aatgacacct ggtacccaga cccacccatt gaccctggga 350

 gggttgaatg tacaacagca actgcaccca catgtgttac caattttgt 400

 cacacaactt ggagcccagg gcactatcct aagctcagag gaattgccac 450

 aaatcttcac gagcctcatc atccattcct tgttcccggg aggcatcctg 500

 cccaccagtc aggcaggggc taatccagat gtccaggatg gaagccttcc 550

 agcaggagga gcaggtgtaa atcctgccac ccaggaacc ccagcaggcc 600

 gcctcccaac tcccagtggc acagatgacg actttgcagt gaccacccct 650

 gcaggcatcc aaaggagcac acatgccatc gaggaagcca ccacagaatc 700

 agcaaatgga attcagtaag ctgtttcaaa ttttttcaac taagctgcct 750

 cgaatttggt gatacatgtg aatctttatc attgattata ttatggaata 800

 gattgagaca cattggatag tcttagaaga aattaattct taatttacct 850

```
gaaaatattc ttgaaatttc agaaaatatg ttctatgtag agaatcccaa 900

cttttaaaaa caataattca atggataaat ctgtctttga aatataacat 950

tatgctgcct ggatgatatg catattaaaa catatttgga aaactggaaa 1000

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1050

aaaaaaaaaa aaaaaaaaaa aaa 1073
```

<210> 96
<211> 209
<212> PRT
<213> Homo Sapien

<400> 96

```
Met Arg Ser Thr Ile Leu Leu Phe Cys Leu Leu Gly Ser Thr Arg
 1               5                  10                  15

Ser Leu Pro Gln Leu Lys Pro Ala Leu Gly Leu Pro Pro Thr Lys
                20                  25                  30

Leu Ala Pro Asp Gln Gly Thr Leu Pro Asn Gln Gln Ser Asn
                35                  40                  45

Gln Val Phe Pro Ser Leu Ser Leu Ile Pro Leu Thr Gln Met Leu
                50                  55                  60

Thr Leu Gly Pro Asp Leu His Leu Leu Asn Pro Ala Ala Gly Met
                65                  70                  75

Thr Pro Gly Thr Gln Thr His Pro Leu Thr Leu Gly Gly Leu Asn
                80                  85                  90

Val Gln Gln Gln Leu His Pro His Val Leu Pro Ile Phe Val Thr
                95                 100                 105

Gln Leu Gly Ala Gln Gly Thr Ile Leu Ser Ser Glu Glu Leu Pro
               110                 115                 120

Gln Ile Phe Thr Ser Leu Ile Ile His Ser Leu Phe Pro Gly Gly
               125                 130                 135

Ile Leu Pro Thr Ser Gln Ala Gly Ala Asn Pro Asp Val Gln Asp
               140                 145                 150

Gly Ser Leu Pro Ala Gly Gly Ala Gly Val Asn Pro Ala Thr Gln
               155                 160                 165

Gly Thr Pro Ala Gly Arg Leu Pro Thr Pro Ser Gly Thr Asp Asp
               170                 175                 180

Asp Phe Ala Val Thr Thr Pro Ala Gly Ile Gln Arg Ser Thr His
               185                 190                 195

Ala Ile Glu Glu Ala Thr Thr Glu Ser Ala Asn Gly Ile Gln
```

<210> 97
<211> 2848
<212> DNA
<213> Homo Sapien

<400> 97

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tggagaagga gctctcttct tgcttggcag ctggaccaag ggagccagtc 100

ttgggcgctg gagggcctgt cctgaccatg gtccctgcct ggctgtggct 150

gctttgtgtc tccgtccccc aggctctccc caaggcccag cctgcagagc 200

tgtctgtgga agttccagaa aactatggtg gaaatttccc tttatacctg 250

accaagttgc cgctgccccg tgaggggget gaaggccaga tcgtgctgtc 300

aggggactca ggcaaggcaa ctgagggccc atttgctatg gatccagatt 350

ctggcttcct gctggtgacc agggccctgg accgagagga gcaggcagag 400

taccagctac aggtcaccct ggagatgcag gatggacatg tcttgtgggg 450

tccacagcct gtgcttgtgc acgtgaagga tgagaatgac caggtgcccc 500

atttctctca agccatctac agagctcggc tgagccgggg taccaggcct 550

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agccaactcg gatcttcgat tccacatcct gagccaggct ccagcccagc 650

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tcagaattcc atggcgagg actatgcggc ccctctggag ctgcacgtgc 1100

tggtgatgga tgagaatgac aacgtgccta tctgccctcc ccgtgacccc 1150

acagtcagca tccctgagct cagtccacca ggtactgaag tgactagact 1200

gtcagcagag gatgcagatg cccccggctc ccccaattcc cacgttgtgt 1250
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```
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agcaggccag aacatcctgc ttctggtgct ggccatggac ctggcaggcg 1400

cagagggtgg cttcagcagc acgtgtgaag tcgaagtcgc agtcacagat 1450

atcaatgatc acgcccctga gttcatcact tcccagattg ggcctataag 1500

cctccctgag gatgtggagc ccgggactct ggtggccatg ctaacagcca 1550

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gatgccaccc cccaagttgg accaggagag ctacgaggcc agtgtcccca 1850

tcagtgcccc agccggctct ttcctgctga ccatccagcc ctccgacccc 1900

atcagccgaa ccctcaggtt ctccctagtc aatgactcag agggctggct 1950

ctgcattgag aaattctccg gggaggtgca caccgcccag tccctgcagg 2000

gcgcccagcc tggggacacc tacacggtgc ttgtggaggc ccaggataca 2050

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tgcaacgtgg aggggcagtg catgcgcaag gtgggccgca tgaagggcat 2400

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aatggcccag gcagctctag ctgggagctt ggcctctggc tccatctgag 2600

tcccctggga gagagcccag cacccaagat ccagcagggg acaggacaga 2650
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gtagaagccc ctccatctgc cctggggtgg aggcaccatc accatcacca 2700

ggcatgtctg cagagcctgg acaccaactt tatggactgc ccatgggagt 2750

gctccaaatg tcagggtgtt tgcccaataa taaagcccca gagaactggg 2800

ctgggcccta tgggaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaag 2848
```

<210> 98
<211> 807
<212> PRT
<213> Homo Sapien

<400> 98

Met	Val	Pro	Ala	Trp	Leu	Trp	Leu	Leu	Cys	Val	Ser	Val	Pro	Gln
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Ala	Leu	Pro	Lys	Ala	Gln	Pro	Ala	Glu	Leu	Ser	Val	Glu	Val	Pro
			20				25					30		

Glu	Asn	Tyr	Gly	Gly	Asn	Phe	Pro	Leu	Tyr	Leu	Thr	Lys	Leu	Pro
			35				40					45		

Leu	Pro	Arg	Glu	Gly	Ala	Glu	Gly	Gln	Ile	Val	Leu	Ser	Gly	Asp
			50				55					60		

Ser	Gly	Lys	Ala	Thr	Glu	Gly	Pro	Phe	Ala	Met	Asp	Pro	Asp	Ser
			65				70					75		

Gly	Phe	Leu	Leu	Val	Thr	Arg	Ala	Leu	Asp	Arg	Glu	Glu	Gln	Ala
			80				85					90		

Glu	Tyr	Gln	Leu	Gln	Val	Thr	Leu	Glu	Met	Gln	Asp	Gly	His	Val
			95				100					105		

Leu	Trp	Gly	Pro	Gln	Pro	Val	Leu	Val	His	Val	Lys	Asp	Glu	Asn
			110				115					120		

Asp	Gln	Val	Pro	His	Phe	Ser	Gln	Ala	Ile	Tyr	Arg	Ala	Arg	Leu
			125				130					135		

Ser	Arg	Gly	Thr	Arg	Pro	Gly	Ile	Pro	Phe	Leu	Phe	Leu	Glu	Ala
			140				145					150		

Ser	Asp	Arg	Asp	Glu	Pro	Gly	Thr	Ala	Asn	Ser	Asp	Leu	Arg	Phe
			155				160					165		

His	Ile	Leu	Ser	Gln	Ala	Pro	Ala	Gln	Pro	Ser	Pro	Asp	Met	Phe
			170				175					180		

Gln	Leu	Glu	Pro	Arg	Leu	Gly	Ala	Leu	Ala	Leu	Ser	Pro	Lys	Gly
			185				190					195		

Ser	Thr	Ser	Leu	Asp	His	Ala	Leu	Glu	Arg	Thr	Tyr	Gln	Leu	Leu
			200				205					210		

Val	Gln	Val	Lys	Asp	Met	Gly	Asp	Gln	Ala	Ser	Gly	His	Gln	Ala

```
                215                      220                      225

Thr Ala Thr Val Glu Val Ser Ile Ile Glu Ser Thr Trp Val Ser
                230                      235                      240

Leu Glu Pro Ile His Leu Ala Glu Asn Leu Lys Val Leu Tyr Pro
                245                      250                      255

His His Met Ala Gln Val His Trp Ser Gly Gly Asp Val His Tyr
                260                      265                      270

His Leu Glu Ser His Pro Pro Gly Pro Phe Glu Val Asn Ala Glu
                275                      280                      285

Gly Asn Leu Tyr Val Thr Arg Glu Leu Asp Arg Glu Ala Gln Ala
                290                      295                      300

Glu Tyr Leu Leu Gln Val Arg Ala Gln Asn Ser His Gly Glu Asp
                305                      310                      315

Tyr Ala Ala Pro Leu Glu Leu His Val Leu Val Met Asp Glu Asn
                320                      325                      330

Asp Asn Val Pro Ile Cys Pro Pro Arg Asp Pro Thr Val Ser Ile
                335                      340                      345

Pro Glu Leu Ser Pro Pro Gly Thr Glu Val Thr Arg Leu Ser Ala
                350                      355                      360

Glu Asp Ala Asp Ala Pro Gly Ser Pro Asn Ser His Val Val Tyr
                365                      370                      375

Gln Leu Leu Ser Pro Glu Pro Glu Asp Gly Val Glu Gly Arg Ala
                380                      385                      390

Phe Gln Val Asp Pro Thr Ser Gly Ser Val Thr Leu Gly Val Leu
                395                      400                      405

Pro Leu Arg Ala Gly Gln Asn Ile Leu Leu Leu Val Leu Ala Met
                410                      415                      420

Asp Leu Ala Gly Ala Glu Gly Gly Phe Ser Ser Thr Cys Glu Val
                425                      430                      435

Glu Val Ala Val Thr Asp Ile Asn Asp His Ala Pro Glu Phe Ile
                440                      445                      450

Thr Ser Gln Ile Gly Pro Ile Ser Leu Pro Glu Asp Val Glu Pro
                455                      460                      465

Gly Thr Leu Val Ala Met Leu Thr Ala Ile Asp Ala Asp Leu Glu
                470                      475                      480

Pro Ala Phe Arg Leu Met Asp Phe Ala Ile Glu Arg Gly Asp Thr
                485                      490                      495

Glu Gly Thr Phe Gly Leu Asp Trp Glu Pro Asp Ser Gly His Val
```

```
                  500                     505                     510

Arg Leu Arg Leu Cys Lys Asn Leu Ser Tyr Glu Ala Ala Pro Ser
                515                     520                     525

His Glu Val Val Val Val Val Gln Ser Val Ala Lys Leu Val Gly
                530                     535                     540

Pro Gly Pro Gly Pro Gly Ala Thr Ala Thr Val Thr Val Leu Val
                545                     550                     555

Glu Arg Val Met Pro Pro Pro Lys Leu Asp Gln Glu Ser Tyr Glu
                560                     565                     570

Ala Ser Val Pro Ile Ser Ala Pro Ala Gly Ser Phe Leu Leu Thr
                575                     580                     585

Ile Gln Pro Ser Asp Pro Ile Ser Arg Thr Leu Arg Phe Ser Leu
                590                     595                     600

Val Asn Asp Ser Glu Gly Trp Leu Cys Ile Glu Lys Phe Ser Gly
                605                     610                     615

Glu Val His Thr Ala Gln Ser Leu Gln Gly Ala Gln Pro Gly Asp
                620                     625                     630

Thr Tyr Thr Val Leu Val Glu Ala Gln Asp Thr Ala Leu Thr Leu
                635                     640                     645

Ala Pro Val Pro Ser Gln Tyr Leu Cys Thr Pro Arg Gln Asp His
                650                     655                     660

Gly Leu Ile Val Ser Gly Pro Ser Lys Asp Pro Asp Leu Ala Ser
                665                     670                     675

Gly His Gly Pro Tyr Ser Phe Thr Leu Gly Pro Asn Pro Thr Val
                680                     685                     690

Gln Arg Asp Trp Arg Leu Gln Thr Leu Asn Gly Ser His Ala Tyr
                695                     700                     705

Leu Thr Leu Ala Leu His Trp Val Glu Pro Arg Glu His Ile Ile
                710                     715                     720

Pro Val Val Val Ser His Asn Ala Gln Met Trp Gln Leu Leu Val
                725                     730                     735

Arg Val Ile Val Cys Arg Cys Asn Val Glu Gly Gln Cys Met Arg
                740                     745                     750

Lys Val Gly Arg Met Lys Gly Met Pro Thr Lys Leu Ser Ala Val
                755                     760                     765

Gly Ile Leu Val Gly Thr Leu Val Ala Ile Gly Ile Phe Leu Ile
                770                     775                     780

Leu Ile Phe Thr His Trp Thr Met Ser Arg Lys Lys Asp Pro Asp
```

Gln Pro Ala Asp Ser Val Pro Leu Lys Ala Thr Val
               800   805

<210> 99
<211> 2436
<212> DNA
<213> Homo Sapien

<400> 99
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 agctgcccac gcctgagtcc aagattcttc ccaggaacac aaacgtagga 100

 gacccacgct cctggaagca ccagccttta tctcttcacc ttcaagtccc 150

 ctttctcaag aatcctctgt tctttgccct ctaaagtctt ggtacatcta 200

 ggacccaggc atcttgcttt ccagccacaa agagacagat gaagatgcag 250

 aaaggaaatg ttctccttat gtttggtcta ctattgcatt tagaagctgc 300

 aacaaattcc aatgagacta gcacctctgc caacactgga tccagtgtga 350

 tctccagtgg agccagcaca gccaccaact ctgggtccag tgtgacctcc 400

 agtggggtca gcacagccac catctcaggg tccagcgtga cctccaatgg 450

 ggtcagcata gtcaccaact ctgagttcca tacaacctcc agtgggatca 500

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gcattcttca ggaaggaaga gacctgggca cccaagacct ggtttccttt 2100

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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2436
```

<210> 100
<211> 596
<212> PRT
<213> Homo Sapien

<400> 100

```
Met Lys Met Gln Lys Gly Asn Val Leu Leu Met Phe Gly Leu Leu
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Leu His Leu Glu Ala Ala Thr Asn Ser Asn Glu Thr Ser Thr Ser
                20                  25                      30

Ala Asn Thr Gly Ser Ser Val Ile Ser Ser Gly Ala Ser Thr Ala
                35                  40                      45
Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Val Ser Thr Ala
                50                  55                      60

Thr Ile Ser Gly Ser Ser Val Thr Ser Asn Gly Val Ser Ile Val
                65                  70                      75

Thr Asn Ser Glu Phe His Thr Thr Ser Ser Gly Ile Ser Thr Ala
                80                  85                      90

Thr Asn Ser Glu Phe Ser Thr Ala Ser Ser Gly Ile Ser Ile Ala
                95                 100                     105

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
               110                 115                     120

Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Ser Thr Val
               125                 130                     135

Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Ala Ser Thr Ala
               140                 145                     150

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala
               155                 160                     165

Thr Asn Ser Glu Ser Ser Thr Leu Ser Ser Gly Ala Ser Thr Ala
               170                 175                     180

Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
               185                 190                     195

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
               200                 205                     210

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala
               215                 220                     225

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
               230                 235                     240

Thr Asn Ser Glu Ser Arg Thr Thr Ser Asn Gly Ala Gly Thr Ala
               245                 250                     255

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
               260                 265                     270

Thr Asn Ser Asp Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala
               275                 280                     285
```

```
Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
            290                 295                 300

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
            305                 310                 315

Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Gly Thr Ala
            320                 325                 330

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val
            335                 340                 345

Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Asn Thr Ala
            350                 355                 360

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala
            365                 370                 375

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala
            380                 385                 390

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Val Ser Thr Ala
            395                 400                 405

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala
            410                 415                 420

Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Glu Ala Ser Thr Ala
            425                 430                 435

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val
            440                 445                 450

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala
            455                 460                 465

Thr Asn Ser Gly Ser Ser Val Thr Ser Ala Gly Ser Gly Thr Ala
            470                 475                 480

Ala Leu Thr Gly Met His Thr Thr Ser His Ser Ala Ser Thr Ala
            485                 490                 495

Val Ser Glu Ala Lys Pro Gly Gly Ser Leu Val Pro Trp Glu Ile
            500                 505                 510

Phe Leu Ile Thr Leu Val Ser Val Val Ala Ala Val Gly Leu Phe
            515                 520                 525

Ala Gly Leu Phe Phe Cys Val Arg Asn Ser Leu Ser Leu Arg Asn
            530                 535                 540

Thr Phe Asn Thr Ala Val Tyr His Pro His Gly Leu Asn His Gly
            545                 550                 555

Leu Gly Pro Gly Pro Gly Gly Asn His Gly Ala Pro His Arg Pro
            560                 565                 570
```

Arg Trp Ser Pro Asn Trp Phe Trp Arg Arg Pro Val Ser Ser Ile
            575   580   585

Ala Met Glu Met Ser Gly Arg Asn Ser Gly Pro
            590   595

<210> 101
<211> 1728
<212> DNA
<213> Homo Sapien

<400> 101
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 tgaaaaacag agtgggtact ctcttctggg aagctggcaa caaatggatg 200

 atgtgatata tgcattccag gggaagggaa attgtggtgc ttctgaaccc 250

 atggtcaatt aacgaggcag tttctagcta ctgcacgtac ttcataaagc 300

 aggactctaa aagctttgga atcatggtgt catggaaagg gatttacttt 350

 atactgactc tgttttgggg aagctttttt ggaagcattt tcatgctgag 400

 tcccttttta cctttgatgt ttgtaaaccc atcttggtat cgctggatca 450

 acaaccgcct tgtggcaaca tggctcaccc tacctgtggc attattggag 500

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 atttcgaaga catgattgat tacttttgtg atattcacga accacttcaa 800

 ctcctcatat tcccagaagg gactgatctc acagaaaaca gcaagtctcg 850

 aagtaatgca tttgctgaaa aaaatggact tcagaaatat gaatatgttt 900

 tacatccaag aactacaggc tttactttg tggtagaccg tctaagagaa 950

 ggtaagaacc ttgatgctgt ccatgatatc actgtggcgt atcctcacaa 1000

 cattcctcaa tcagagaagc acctcctcca aggagacttt cccagggaaa 1050

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 gaggaccttc aactctggtg ccacaaacgg tgggaagaga aagaagagag 1150

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gttctaaacc tttctaagct cagatgcatt tttgcatgac tatgtcgaat 1550

atttcttact gccatcatta tttgttaaag atattttgca cttaattttg 1600

tgggaaaaat attgctacaa ttttttttaa tctctgaatg taatttcgat 1650

actgtgtaca tagcagggag tgatcggggt gaaataactt gggccagaat 1700

attattaaac aatcatcagg cttttaaa 1728
```

<210> 102
<211> 414
<212> PRT
<213> Homo Sapien

<400> 102
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 Met His Ser Arg Gly Arg Glu Ile Val Val Leu Leu Asn Pro Trp
  1               5                  10                  15

 Ser Ile Asn Glu Ala Val Ser Ser Tyr Cys Thr Tyr Phe Ile Lys
                 20                  25                  30

 Gln Asp Ser Lys Ser Phe Gly Ile Met Val Ser Trp Lys Gly Ile
                 35                  40                  45

 Tyr Phe Ile Leu Thr Leu Phe Trp Gly Ser Phe Phe Gly Ser Ile
                 50                  55                  60

 Phe Met Leu Ser Pro Phe Leu Pro Leu Met Phe Val Asn Pro Ser
                 65                  70                  75

 Trp Tyr Arg Trp Ile Asn Asn Arg Leu Val Ala Thr Trp Leu Thr
                 80                  85                  90

 Leu Pro Val Ala Leu Leu Glu Thr Met Phe Gly Val Lys Val Ile
                 95                 100                 105

 Ile Thr Gly Asp Ala Phe Val Pro Gly Glu Arg Ser Val Ile Ile
                110                 115                 120

 Met Asn His Arg Thr Arg Met Asp Trp Met Phe Leu Trp Asn Cys
                125                 130                 135
```

```
Leu Met Arg Tyr Ser Tyr Leu Arg Leu Glu Lys Ile Cys Leu Lys
              140               145               150

Ala Ser Leu Lys Gly Val Pro Gly Phe Gly Trp Ala Met Gln Ala
              155               160               165

Ala Ala Tyr Ile Phe Ile His Arg Lys Trp Lys Asp Asp Lys Ser
              170               175               180

His Phe Glu Asp Met Ile Asp Tyr Phe Cys Asp Ile His Glu Pro
              185               190               195

Leu Gln Leu Leu Ile Phe Pro Glu Gly Thr Asp Leu Thr Glu Asn
              200               205               210

Ser Lys Ser Arg Ser Asn Ala Phe Ala Glu Lys Asn Gly Leu Gln
     .        215               220               225

Lys Tyr Glu Tyr Val Leu His Pro Arg Thr Thr Gly Phe Thr Phe
              230               235               240

Val Val Asp Arg Leu Arg Glu Gly Lys Asn Leu Asp Ala Val His
              245               250               255

Asp Ile Thr Val Ala Tyr Pro His Asn Ile Pro Gln Ser Glu Lys
              260               265               270

His Leu Leu Gln Gly Asp Phe Pro Arg Glu Ile His Phe His Val
              275               280               285

His Arg Tyr Pro Ile Asp Thr Leu Pro Thr Ser Lys Glu Asp Leu
              290               295               300

Gln Leu Trp Cys His Lys Arg Trp Glu Glu Lys Glu Glu Arg Leu
              305               310               315

Arg Ser Phe Tyr Gln Gly Glu Lys Asn Phe Tyr Phe Thr Gly Gln
              320               325               330

Ser Val Ile Pro Pro Cys Lys Ser Glu Leu Arg Val Leu Val Val
              335               340               345

Lys Leu Leu Ser Ile Leu Tyr Trp Thr Leu Phe Ser Pro Ala Met
              350               355               360

Cys Leu Leu Ile Tyr Leu Tyr Ser Leu Val Lys Trp Tyr Phe Ile
              365               370               375

Ile Thr Ile Val Ile Phe Val Leu Gln Glu Arg Ile Phe Gly Gly
              380               385               390

Leu Glu Ile Ile Glu Leu Ala Cys Tyr Arg Leu Leu His Lys Gln
              395               400               405

Pro His Leu Asn Ser Lys Lys Asn Glu
              410
```

<210> 103
<211> 2403
<212> DNA
<213> Homo Sapien

<400> 103
cggctcgagc ggctcgagtg aagagcctct ccacggctcc tgcgcctgag 50

acagctggcc tgacctccaa atcatccatc cacccctgct gtcatctgtt 100

ttcatagtgt gagatcaacc cacaggaata tccatggctt ttgtgctcat 150

tttggttctc agtttctacg agctggtgtc aggacagtgg caagtcactg 200

gaccgggcaa gtttgtccag gccttggtgg gggaggacgc cgtgttctcc 250

tgctccctct ttcctgagac cagtgcagag gctatggaag tgcggttctt 300

caggaatcag ttccatgctg tggtccacct ctacagagat ggggaagact 350

gggaatctaa gcagatgcca cagtatcgag gagaactga gtttgtgaag 400

gactccattg cagggggggcg tgtctctcta aggctaaaaa acatcactcc 450

ctcggacatc ggcctgtatg ggtgctggtt cagttcccag atttacgatg 500

aggaggccac ctgggagctg cgggtggcag cactgggctc acttcctctc 550

atttccatcg tgggatatgt tgacggaggt atccagttac tctgcctgtc 600

ctcaggctgg ttcccccagc ccacagccaa gtggaaaggt ccacaaggac 650

aggatttgtc ttcagactcc agagcaaatg cagatgggta cagcctgtat 700

gatgtggaga tctccattat agtccaggaa aatgctggga gcatattgtg 750

ttccatccac cttgctgagc agagtcatga ggtggaatcc aaggtattga 800

taggagagac gtttttccag ccctcacctt ggcgcctggc ttctatttta 850

ctcgggttac tctgtggtgc cctgtgtggt gttgtcatgg ggatgataat 900

tgtttttcttc aaatccaaag ggaaaatcca ggcggaactg gactggagaa 950

gaaagcacgg acaggcagaa ttgagagacg cccggaaaca cgcagtggag 1000

gtgactctgg atccagagac ggctcacccg aagctctgcg tttctgatct 1050

gaaaactgta acccatagaa aagctcccca ggaggtgcct cactctgaga 1100

agagatttac aaggaagagt gtggtggctt ctcagggttt ccaagcaggg 1150

agacattact gggaggtgga cgtgggacaa aatgtagggt ggtatgtggg 1200

agtgtgtcgg gatgacgtag acagggggaa gaacaatgtg actttgtctc 1250

ccaacaatgg gtattgggtc ctcagactga caacagaaca tttgtatttc 1300

```
acattcaatc cccattttat cagcctcccc cccagcaccc ctcctacacg 1350

agtaggggtc ttcctggact atgagggtgg gaccatctcc ttcttcaata 1400

caaatgacca gtcccttatt tataccctgc tgacatgtca gtttgaaggc 1450

ttgttgagac cctatatcca gcatgcgatg tatgacgagg aaaaggggac 1500

tcccatattc atatgtccag tgtcctgggg atgagacaga gaagaccctg 1550

cttaaagggc cccacaccac agacccagac acagccaagg gagagtgctc 1600

ccgacaggtg gccccagctt cctctccgga gcctgcgcac agagagtcac 1650

gccccccact ctcctttagg gagctgaggt tcttctgccc tgagccctgc 1700

agcagcggca gtcacagctt ccagatgagg ggggattggc ctgaccctgt 1750

gggagtcaga agccatggct gccctgaagt ggggacggaa tagactcaca 1800

ttaggtttag tttgtgaaaa ctccatccag ctaagcgatc ttgaacaagt 1850

cacaacctcc caggctcctc atttgctagt cacggacagt gattcctgcc 1900

tcacaggtga agattaaaga gacaacgaat gtgaatcatg cttgcaggtt 1950

tgagggcaca gtgtttgcta atgatgtgtt tttatattat acattttccc 2000

accataaact ctgtttgctt attccacatt aatttacttt tctctatacc 2050

aaatcaccca tggaatagtt attgaacacc tgctttgtga ggctcaaaga 2100

ataaagagga ggtaggattt ttcactgatt ctataagccc agcattacct 2150

gataccaaaa ccaggcaaag aaaacagaag aagaggaagg aaaactacag 2200

gtccatatcc ctcattaaca cagacacaaa aattctaaat aaaattttaa 2250

caaattaaac taaacaatat atttaaagat gatatataac tactcagtgt 2300

ggtttgtccc acaaatgcag agttggttta atatttaaat atcaaccagt 2350

gtaattcagc acattaataa agtaaaaaag aaaaccataa aaaaaaaaaa 2400

aaa 2403
```

<210> 104
<211> 466
<212> PRT
<213> Homo Sapien

<400> 104
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Met Ala Phe Val Leu Ile Leu Val Leu Ser Phe Tyr Glu Leu Val
 1               5                  10                  15

Ser Gly Gln Trp Gln Val Thr Gly Pro Gly Lys Phe Val Gln Ala
```

```
                 20                         25                         30
Leu Val Gly Glu Asp Ala Val Phe Ser Cys Ser Leu Phe Pro Glu
                 35                         40                         45
Thr Ser Ala Glu Ala Met Glu Val Arg Phe Phe Arg Asn Gln Phe
                 50                         55                         60
His Ala Val Val His Leu Tyr Arg Asp Gly Glu Asp Trp Glu Ser
                 65                         70                         75
Lys Gln Met Pro Gln Tyr Arg Gly Arg Thr Glu Phe Val Lys Asp
                 80                         85                         90
Ser Ile Ala Gly Gly Arg Val Ser Leu Arg Leu Lys Asn Ile Thr
                 95                        100                        105
Pro Ser Asp Ile Gly Leu Tyr Gly Cys Trp Phe Ser Ser Gln Ile
                110                        115                        120
Tyr Asp Glu Glu Ala Thr Trp Glu Leu Arg Val Ala Ala Leu Gly
                125                        130                        135
Ser Leu Pro Leu Ile Ser Ile Val Gly Tyr Val Asp Gly Gly Ile
                140                        145                        150
Gln Leu Leu Cys Leu Ser Ser Gly Trp Phe Pro Gln Pro Thr Ala
                155                        160                        165
Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Ser Asp Ser Arg
                170                        175                        180
Ala Asn Ala Asp Gly Tyr Ser Leu Tyr Asp Val Glu Ile Ser Ile
                185                        190                        195
Ile Val Gln Glu Asn Ala Gly Ser Ile Leu Cys Ser Ile His Leu
                200                        205                        210
Ala Glu Gln Ser His Glu Val Glu Ser Lys Val Leu Ile Gly Glu
                215                        220                        225
Thr Phe Phe Gln Pro Ser Pro Trp Arg Leu Ala Ser Ile Leu Leu
                230                        235                        240
Gly Leu Leu Cys Gly Ala Leu Cys Gly Val Val Met Gly Met Ile
                245                        250                        255
Ile Val Phe Phe Lys Ser Lys Gly Lys Ile Gln Ala Glu Leu Asp
                260                        265                        270
Trp Arg Arg Lys His Gly Gln Ala Glu Leu Arg Asp Ala Arg Lys
                275                        280                        285
His Ala Val Glu Val Thr Leu Asp Pro Glu Thr Ala His Pro Lys
                290                        295                        300
Leu Cys Val Ser Asp Leu Lys Thr Val Thr His Arg Lys Ala Pro
```

```
                305                         310                         315
   Gln Glu Val Pro His Ser Glu Lys Arg Phe Thr Arg Lys Ser Val
                    320             325                 330

   Val Ala Ser Gln Gly Phe Gln Ala Gly Arg His Tyr Trp Glu Val
                    335             340                 345

   Asp Val Gly Gln Asn Val Gly Trp Tyr Val Gly Val Cys Arg Asp
                    350             355                 360

   Asp Val Asp Arg Gly Lys Asn Asn Val Thr Leu Ser Pro Asn Asn
                    365             370                 375

   Gly Tyr Trp Val Leu Arg Leu Thr Thr Glu His Leu Tyr Phe Thr
                    380             385                 390

   Phe Asn Pro His Phe Ile Ser Leu Pro Pro Ser Thr Pro Pro Thr
                    395             400                 405

   Arg Val Gly Val Phe Leu Asp Tyr Glu Gly Gly Thr Ile Ser Phe
                    410             415                 420

   Phe Asn Thr Asn Asp Gln Ser Leu Ile Tyr Thr Leu Leu Thr Cys
                    425            430                  435

   Gln Phe Glu Gly Leu Leu Arg Pro Tyr Ile Gln His Ala Met Tyr
                    440             445                 450

   Asp Glu Glu Lys Gly Thr Pro Ile Phe Ile Cys Pro Val Ser Trp
                    455             460                 465

   Gly
```

<210> 105
<211> 2103
<212> DNA
<213> Homo Sapien

<400> 105

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 ccttcacagg actcttcatt gctggttggc aatgatgtat cggccagatg 50

 tggtgagggc taggaaaaga gtttgttggg aaccctgggt tatcggcctc 100

 gtcatcttca tatccctgat tgtcctggca gtgtgcattg gactcactgt 150

 tcattatgtg agatataatc aaaagaagac ctacaattac tatagcacat 200

 tgtcatttac aactgacaaa ctatatgctg agtttggcag agaggcttct 250

 aacaatttta cagaaatgag ccagagactt gaatcaatgg tgaaaaatgc 300

 attttataaa tctccattaa gggaagaatt tgtcaagtct caggttatca 350

 agttcagtca acagaagcat ggagtgttgg ctcatatgct gttgatttgt 400

 agatttcact ctactgagga tcctgaaact gtagataaaa ttgttcaact 450
```

```
tgttttacat gaaaagctgc aagatgctgt aggacccccct aaagtagatc 500

ctcactcagt taaaattaaa aaaatcaaca agacagaaac agacagctat 550

ctaaaccatt gctgcggaac acgaagaagt aaaactctag gtcagagtct 600

caggatcgtt ggtgggacag aagtagaaga gggtgaatgg ccctggcagg 650

ctagcctgca gtgggatggg agtcatcgct gtggagcaac cttaattaat 700

gccacatggc ttgtgagtgc tgctcactgt tttacaacat ataagaaccc 750

tgccagatgg actgcttcct ttggagtaac aataaaacct tcgaaaatga 800

aacggggtct ccggagaata attgtccatg aaaaatacaa acacccatca 850

catgactatg atatttctct tgcagagctt tctagccctg ttccctacac 900

aaatgcagta catagagttt gtctccctga tgcatcctat gagtttcaac 950

caggtgatgt gatgtttgtg acaggatttg gagcactgaa aaatgatggt 1000

tacagtcaaa atcatcttcg acaagcacag gtgactctca tagacgctac 1050

aacttgcaat gaacctcaag cttacaatga cgccataact cctagaatgt 1100

tatgtgctgg ctccttagaa ggaaaaacag atgcatgcca gggtgactct 1150

ggaggaccac tggttagttc agatgctaga gatatctggt accttgctgg 1200

aatagtgagc tggggagatg aatgtgcgaa acccaacaag cctggtgttt 1250

atactagagt tacggccttg cgggactgga ttacttcaaa aactggtatc 1300

taagagacaa aagcctcatg gaacagataa cattttttt tgttttttgg 1350
gtgtggaggc cattttttaga gatacagaat tggagaagac ttgcaaaaca 1400

gctagatttg actgatctca ataaactgtt tgcttgatgc atgtattttc 1450

ttcccagctc tgttccgcac gtaagcatcc tgcttctgcc agatcaactc 1500

tgtcatctgt gagcaatagt tgaaacttta tgtacataga gaaatagata 1550

atacaatatt acattacagc ctgtattcat ttgttctcta gaagttttgt 1600

cagaattttg acttgttgac ataaatttgt aatgcatata tacaatttga 1650

agcactcctt ttcttcagtt cctcagctcc tctcatttca gcaaatatcc 1700

attttcaagg tgcagaacaa ggagtgaaag aaaatataag aagaaaaaa 1750

tcccctacat tttattggca cagaaaagta ttaggtgttt ttcttagtgg 1800

aatattagaa atgatcatat tcattatgaa aggtcaagca aagacagcag 1850

aataccaatc acttcatcat ttaggaagta tgggaactaa gttaaggaag 1900
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```
tccagaaaga agccaagata tatccttatt ttcatttcca aacaactact 1950

atgataaatg tgaagaagat tctgtttttt tgtgacctat aataattata 2000

caaacttcat gcaatgtact tgttctaagc aaattaaagc aaatatttat 2050

ttaacattgt tactgaggat gtcaacatat aacaataaaa tataaatcac 2100

cca 2103
```

<210> 106
<211> 423
<212> PRT
<213> Homo Sapien

<400> 106

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Met Met Tyr Arg Pro Asp Val Val Arg Ala Arg Lys Arg Val Cys
  1               5                  10                  15

Trp Glu Pro Trp Val Ile Gly Leu Val Ile Phe Ile Ser Leu Ile
                 20                  25                  30

Val Leu Ala Val Cys Ile Gly Leu Thr Val His Tyr Val Arg Tyr
                 35                  40                  45

Asn Gln Lys Lys Thr Tyr Asn Tyr Tyr Ser Thr Leu Ser Phe Thr
                 50                  55                  60

Thr Asp Lys Leu Tyr Ala Glu Phe Gly Arg Glu Ala Ser Asn Asn
                 65                  70                  75

Phe Thr Glu Met Ser Gln Arg Leu Glu Ser Met Val Lys Asn Ala
                 80                  85                  90

Phe Tyr Lys Ser Pro Leu Arg Glu Glu Phe Val Lys Ser Gln Val
                 95                 100                 105

Ile Lys Phe Ser Gln Gln Lys His Gly Val Leu Ala His Met Leu
                110                 115                 120

Leu Ile Cys Arg Phe His Ser Thr Glu Asp Pro Glu Thr Val Asp
                125                 130                 135

Lys Ile Val Gln Leu Val Leu His Glu Lys Leu Gln Asp Ala Val
                140                 145                 150

Gly Pro Pro Lys Val Asp Pro His Ser Val Lys Ile Lys Lys Ile
                155                 160                 165

Asn Lys Thr Glu Thr Asp Ser Tyr Leu Asn His Cys Cys Gly Thr
                170                 175                 180

Arg Arg Ser Lys Thr Leu Gly Gln Ser Leu Arg Ile Val Gly Gly
                185                 190                 195

Thr Glu Val Glu Glu Gly Glu Trp Pro Trp Gln Ala Ser Leu Gln
```

```
                    200                         205                         210
    Trp Asp Gly Ser His Arg Cys Gly Ala Thr Leu Ile Asn Ala Thr
                        215                         220                         225

    Trp Leu Val Ser Ala Ala His Cys Phe Thr Thr Tyr Lys Asn Pro
                        230                         235                         240

    Ala Arg Trp Thr Ala Ser Phe Gly Val Thr Ile Lys Pro Ser Lys
                        245                         250                         255

    Met Lys Arg Gly Leu Arg Arg Ile Ile Val His Glu Lys Tyr Lys
                        260                         265                         270

    His Pro Ser His Asp Tyr Asp Ile Ser Leu Ala Glu Leu Ser Ser
                        275                         280                         285

    Pro Val Pro Tyr Thr Asn Ala Val His Arg Val Cys Leu Pro Asp
                        290                         295                         300

    Ala Ser Tyr Glu Phe Gln Pro Gly Asp Val Met Phe Val Thr Gly
                        305                         310                         315

    Phe Gly Ala Leu Lys Asn Asp Gly Tyr Ser Gln Asn His Leu Arg
                        320                         325                         330

    Gln Ala Gln Val Thr Leu Ile Asp Ala Thr Thr Cys Asn Glu Pro
                        335                         340                         345

    Gln Ala Tyr Asn Asp Ala Ile Thr Pro Arg Met Leu Cys Ala Gly
                        350                         355                         360

    Ser Leu Glu Gly Lys Thr Asp Ala Cys Gln Gly Asp Ser Gly Gly
                        365                         370                         375

    Pro Leu Val Ser Ser Asp Ala Arg Asp Ile Trp Tyr Leu Ala Gly
                        380                         385                         390

    Ile Val Ser Trp Gly Asp Glu Cys Ala Lys Pro Asn Lys Pro Gly
                        395                         400                         405

    Val Tyr Thr Arg Val Thr Ala Leu Arg Asp Trp Ile Thr Ser Lys
                        410                         415                         420

    Thr Gly Ile


<210> 107
<211> 2397
<212> DNA
<213> Homo Sapien

<400> 107
 agagaaagaa gcgtctccag ctgaagccaa tgcagccctc cggctctccg 50

 cgaagaagtt ccctgccccg atgagccccc gccgtgcgtc cccgactatc 100
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```
cccaggcggg  cgtggggcac  cgggcccagc  gccgacgatc  gctgccgttt  150

tgcccttggg  agtaggatgt  ggtgaaagga  tggggcttct  cccttacggg  200

gctcacaatg  gccagagaag  attccgtgaa  gtgtctgcgc  tgcctgctct  250

acgccctcaa  tctgctcttt  tggttaatgt  ccatcagtgt  gttggcagtt  300

tctgcttgga  tgagggacta  cctaaataat  gttctcactt  taactgcaga  350

aacgagggta  gaggaagcag  tcattttgac  ttactttcct  gtggttcatc  400

cggtcatgat  tgctgtttgc  tgtttcctta  tcattgtggg  gatgttagga  450

tattgtggaa  cggtgaaaag  aaatctgttg  cttcttgcat  ggtactttgg  500

aagtttgctt  gtcattttct  gtgtagaact  ggcttgtggc  gtttggacat  550

atgaacagga  acttatggtt  ccagtacaat  ggtcagatat  ggtcactttg  600

aaagccagga  tgacaaatta  tggattacct  agatatcggt  ggcttactca  650

tgcttggaat  ttttttcaga  gagagtttaa  gtgctgtgga  gtagtatatt  700

tcactgactg  gttggaaatg  acagagatgg  actggccccc  agattcctgc  750

tgtgttagag  aattcccagg  atgttccaaa  caggcccacc  aggaagatct  800

cagtgacctt  tatcaagagg  gttgtgggaa  gaaaatgtat  tcctttttga  850

gaggaaccaa  acaactgcag  gtgctgaggt  ttctgggaat  ctccattggg  900

gtgacacaaa  tcctggccat  gattctcacc  attactctgc  tctgggctct  950

gtattatgat  agaagggagc  ctgggacaga  ccaaatgatg  tccttgaaga  1000

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cagaaatatg  tagaaataaa  aatgttgcca  taaaataaca  cctaagcata  1250
tactattcta  tgctttaaaa  tgaggatgga  aaagtttcat  gtcataagtc  1300

accacctgga  caataattga  tgcccttaaa  atgctgaaga  cagatgtcat  1350

acccactgtg  tagcctgtgt  atgactttta  ctgaacacag  ttatgttttg  1400

aggcagcatg  gtttgattag  catttccgca  tccatgcaaa  cgagtcacat  1450

atggtgggac  tggagccata  gtaaaggttg  atttacttct  accaactagt  1500

atataaagta  ctaattaaat  gctaacatag  gaagttagaa  aatactaata  1550
```

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acttttatta ctcagcgatc tattcttctg atgctaaata aattatatat 1600

cagaaaactt tcaatattgg tgactaccta aatgtgattt ttgctggtta 1650

ctaaaatatt cttaccactt aaaagagcaa gctaacacat tgtcttaagc 1700

tgatcaggga tttttttgtat ataagtctgt gttaaatctg tataattcag 1750

tcgatttcag ttctgataat gttaagaata accattatga aaaggaaaat 1800

ttgtcctgta tagcatcatt atttttagcc tttcctgtta ataaagcttt 1850

actattctgt cctgggctta tattacacat ataactgtta tttaaatact 1900

taaccactaa ttttgaaaat taccagtgtg atacatagga atcattattc 1950

agaatgtagt ctggtcttta ggaagtatta ataagaaaat ttgcacataa 2000

cttagttgat tcagaaagga cttgtatgct gtttttctcc caaatgaaga 2050

ctcttttga cactaaacac ttttttaaaaa gcttatcttt gccttctcca 2100

aacaagaagc aatagtctcc aagtcaatat aaattctaca gaaaatagtg 2150

ttcttttct ccagaaaaat gcttgtgaga atcattaaaa catgtgacaa 2200

tttagagatt ctttgtttta tttcactgat taatatactg tggcaaatta 2250

cacagattat taaatttttt tacaagagta tagtatattt atttgaaatg 2300

ggaaaagtgc attttactgt attttgtgta ttttgtttat ttctcagaat 2350

atggaaagaa aattaaaatg tgtcaataaa tattttctag agagtaa 2397
```

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<210> 108
<211> 305
<212> PRT
<213> Homo Sapien

<400> 108
 Met Ala Arg Glu Asp Ser Val Lys Cys Leu Arg Cys Leu Leu Tyr
  1               5                  10                  15

 Ala Leu Asn Leu Leu Phe Trp Leu Met Ser Ile Ser Val Leu Ala
                 20                  25                  30

 Val Ser Ala Trp Met Arg Asp Tyr Leu Asn Asn Val Leu Thr Leu
                 35                  40                  45
 Thr Ala Glu Thr Arg Val Glu Glu Ala Val Ile Leu Thr Tyr Phe
                 50                  55                  60

 Pro Val Val His Pro Val Met Ile Ala Val Cys Cys Phe Leu Ile
                 65                  70                  75

 Ile Val Gly Met Leu Gly Tyr Cys Gly Thr Val Lys Arg Asn Leu
                 80                  85                  90
```

```
Leu Leu Leu Ala Trp Tyr Phe Gly Ser Leu Leu Val Ile Phe Cys
             95                  100                 105

Val Glu Leu Ala Cys Gly Val Trp Thr Tyr Glu Gln Glu Leu Met
             110                 115                 120

Val Pro Val Gln Trp Ser Asp Met Val Thr Leu Lys Ala Arg Met
             125                 130                 135

Thr Asn Tyr Gly Leu Pro Arg Tyr Arg Trp Leu Thr His Ala Trp
             140                 145                 150

Asn Phe Phe Gln Arg Glu Phe Lys Cys Cys Gly Val Val Tyr Phe
             155                 160                 165

Thr Asp Trp Leu Glu Met Thr Glu Met Asp Trp Pro Pro Asp Ser
             170                 175                 180

Cys Cys Val Arg Glu Phe Pro Gly Cys Ser Lys Gln Ala His Gln
             185                 190                 195

Glu Asp Leu Ser Asp Leu Tyr Gln Glu Gly Cys Gly Lys Lys Met
             200                 205                 210

Tyr Ser Phe Leu Arg Gly Thr Lys Gln Leu Gln Val Leu Arg Phe
             215                 220                 225

Leu Gly Ile Ser Ile Gly Val Thr Gln Ile Leu Ala Met Ile Leu
             230                 235                 240

Thr Ile Thr Leu Leu Trp Ala Leu Tyr Tyr Asp Arg Arg Glu Pro
             245                 250                 255

Gly Thr Asp Gln Met Met Ser Leu Lys Asn Asp Asn Ser Gln His
             260                 265                 270

Leu Ser Cys Pro Ser Val Glu Leu Leu Lys Pro Ser Leu Ser Arg
             275                 280                 285

Ile Phe Glu His Thr Ser Met Ala Asn Ser Phe Asn Thr His Phe
             290                 295                 300

Glu Met Glu Glu Leu
             305
```

<210> 109
<211> 2339
<212> DNA
<213> Homo Sapien

<400> 109
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 tctgataaag cccctaccag tgctgataaa gtctttctcg tgagagccta 100

 gaggccttaa aaaaaaaagt gcttgaaaga gaaggggaca aggaacacc 150
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agtattaaga ggattttcca gtgtttctgg cagttggtcc agaaggatgc 200

ctccattcct gcttctcacc tgcctcttca tcacaggcac ctccgtgtca 250

cccgtggccc tagatccttg ttctgcttac atcagcctga atgagccctg 300

gaggaacact gaccaccagt tggatgagtc tcaaggtcct cctctatgtg 350

acaaccatgt gaatggggag tggtaccact tcacgggcat ggcgggagat 400

gccatgccta ccttctgcat accagaaaac cactgtggaa cccacgcacc 450

tgtctggctc aatggcagcc accccctaga aggcgacggc attgtgcaac 500

gccaggcttg tgccagcttc aatgggaact gctgtctctg aacaccacg 550

gtggaagtca aggcttgccc tggaggctac tatgtgtatc gtctgaccaa 600

gcccagcgtc tgcttccacg tctactgtgg tcatttttat gacatctgcg 650

acgaggactg ccatggcagc tgctcagata ccagcgagtg cacatgcgct 700

ccaggaactg tgctaggccc tgacaggcag acatgctttg atgaaaatga 750

atgtgagcaa aacaacggtg gctgcagtga gatctgtgtg aacctcaaaa 800

actcctaccg ctgtgagtgt ggggttggcc gtgtgctaag aagtgatggc 850

aagacttgtg aagacgttga aggatgccac aataacaatg gtggctgcag 900

ccactcttgc cttggatctg agaaaggcta ccagtgtgaa tgtccccggg 950

gcctggtgct gtctgaggat aaccacactt gccaagtccc tgtgttgtgc 1000

aaatcaaatg ccattgaagt gaacatcccc agggagctgg ttggtggcct 1050

ggagctcttc ctgaccaaca cctcctgccg aggagtgtcc aacggcaccc 1100

atgtcaacat cctcttctct ctcaagacat gtggtacagt ggtcgatgtg 1150

gtgaatgaca agattgtggc cagcaacctc gtgacaggtc tacccaagca 1200

gaccccgggg agcagcgggg acttcatcat ccgaaccagc aagctgctga 1250

tcccggtgac ctgcgagttt ccacgcctgt acaccatttc tgaaggatac 1300

gttcccaacc ttcgaaactc cccactggaa atcatgagcc gaaatcatgg 1350

gatcttccca ttcactctgg agatcttcaa ggacaatgag tttgaagagc 1400

cttaccggga agctctgccc accctcaagc ttcgtgactc cctctacttt 1450

ggcattgagc ccgtggtgca cgtgagcggc ttggaaagct ggtggagag 1500

ctgctttgcc accccacct ccaagatcga cgaggtcctg aaatactacc 1550

tcatccggga tggctgtgtt tcagatgact cggtaaagca gtacacatcc 1600
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cgggatcacc tagcaaagca cttccaggtc cctgtcttca agtttgtggg 1650

caaagaccac aaggaagtgt ttctgcactg ccgggttctt gtctgtggag 1700

tgttggacga gcgttcccgc tgtgcccagg gttgccaccg gcgaatgcgt 1750

cgtggggcag gaggagagga ctcagccggt ctacagggcc agacgctaac 1800

aggcggcccg atccgcatcg actgggagga ctagttcgta gccatacctc 1850

gagtccctgc attggacggc tctgctcttt ggagcttctc cccccaccgc 1900

cctctaagaa catctgccaa cagctgggtt cagacttcac actgtgagtt 1950

cagactccca gcaccaactc actctgattc tggtccattc agtgggcaca 2000

ggtcacagca ctgctgaaca atgtggcctg ggtggggttt catctttcta 2050

gggttgaaaa ctaaactgtc cacccagaaa gacactcacc ccatttccct 2100

catttctttc ctacacttaa atacctcgtg tatggtgcaa tcagaccaca 2150

aaatcagaag ctgggtataa tatttcaagt tacaaaccct agaaaaatta 2200

aacagttact gaaattatga cttaaatacc caatgactcc ttaaatatgt 2250

aaattatagt tataccttga aatttcaatt caaatgcaga ctaattatag 2300

ggaatttgga agtgtatcaa taaaacagta tataatttt 2339
```

<210> 110
<211> 545
<212> PRT
<213> Homo Sapien

<400> 110

```
Met Pro Pro Phe Leu Leu Leu Thr Cys Leu Phe Ile Thr Gly Thr
 1               5                  10                  15

Ser Val Ser Pro Val Ala Leu Asp Pro Cys Ser Ala Tyr Ile Ser
                20                  25                  30

Leu Asn Glu Pro Trp Arg Asn Thr Asp His Gln Leu Asp Glu Ser
                35                  40                  45

Gln Gly Pro Pro Leu Cys Asp Asn His Val Asn Gly Glu Trp Tyr
                50                  55                  60

His Phe Thr Gly Met Ala Gly Asp Ala Met Pro Thr Phe Cys Ile
                65                  70                  75

Pro Glu Asn His Cys Gly Thr His Ala Pro Val Trp Leu Asn Gly
                80       .          85                  90

Ser His Pro Leu Glu Gly Asp Gly Ile Val Gln Arg Gln Ala Cys
                95                 100                 105
```

```
Ala Ser Phe Asn Gly Asn Cys Cys Leu Trp Asn Thr Thr Val Glu
             110             115                         120

Val Lys Ala Cys Pro Gly Gly Tyr Tyr Val Tyr Arg Leu Thr Lys
             125             130                         135

Pro Ser Val Cys Phe His Val Tyr Cys Gly His Phe Tyr Asp Ile
             140             145                         150

Cys Asp Glu Asp Cys His Gly Ser Cys Ser Asp Thr Ser Glu Cys
             155             160                         165

Thr Cys Ala Pro Gly Thr Val Leu Gly Pro Asp Arg Gln Thr Cys
             170             175                         180

Phe Asp Glu Asn Glu Cys Glu Gln Asn Gly Gly Cys Ser Glu
             185             190                         195

Ile Cys Val Asn Leu Lys Asn Ser Tyr Arg Cys Glu Cys Gly Val
             200             205                         210

Gly Arg Val Leu Arg Ser Asp Gly Lys Thr Cys Glu Asp Val Glu
             215             220                         225

Gly Cys His Asn Asn Asn Gly Gly Cys Ser His Ser Cys Leu Gly
             230           .  235                         240

Ser Glu Lys Gly Tyr Gln Cys Glu Cys Pro Arg Gly Leu Val Leu
             245             250                         255

Ser Glu Asp Asn His Thr Cys Gln Val Pro Val Leu Cys Lys Ser
             260             265                         270

Asn Ala Ile Glu Val Asn Ile Pro Arg Glu Leu Val Gly Gly Leu
             275             280                         285

Glu Leu Phe Leu Thr Asn Thr Ser Cys Arg Gly Val Ser Asn Gly
             290             295                         300

Thr His Val Asn Ile Leu Phe Ser Leu Lys Thr Cys Gly Thr Val
             305             310                         315

Val Asp Val Val Asn Asp Lys Ile Val Ala Ser Asn Leu Val Thr
             320             325                         330

Gly Leu Pro Lys Gln Thr Pro Gly Ser Ser Gly Asp Phe Ile Ile
             335             340                         345

Arg Thr Ser Lys Leu Leu Ile Pro Val Thr Cys Glu Phe Pro Arg
             350             355                         360

Leu Tyr Thr Ile Ser Glu Gly Tyr Val Pro Asn Leu Arg Asn Ser
             365             370                         375

Pro Leu Glu Ile Met Ser Arg Asn His Gly Ile Phe Pro Phe Thr
             380             385                         390
```

```
Leu Glu Ile Phe Lys Asp Asn Glu Phe Glu Glu Pro Tyr Arg Glu
            395             400             405

Ala Leu Pro Thr Leu Lys Leu Arg Asp Ser Leu Tyr Phe Gly Ile
            410             415             420

Glu Pro Val Val His Val Ser Gly Leu Glu Ser Leu Val Glu Ser
            425             430             435

Cys Phe Ala Thr Pro Thr Ser Lys Ile Asp Glu Val Leu Lys Tyr
            440             445             450

Tyr Leu Ile Arg Asp Gly Cys Val Ser Asp Asp Ser Val Lys Gln
            455             460             465

Tyr Thr Ser Arg Asp His Leu Ala Lys His Phe Gln Val Pro Val
            470             475             480

Phe Lys Phe Val Gly Lys Asp His Lys Glu Val Phe Leu His Cys
            485             490             495

Arg Val Leu Val Cys Gly Val Leu Asp Glu Arg Ser Arg Cys Ala
            500             505             510

Gln Gly Cys His Arg Arg Met Arg Arg Gly Ala Gly Gly Glu Asp
            515             520             525

Ser Ala Gly Leu Gln Gly Gln Thr Leu Thr Gly Gly Pro Ile Arg
            530             535             540

Ile Asp Trp Glu Asp
            545
```

<210> 111
<211> 2063
<212> DNA
<213> Homo Sapien

<400> 111
```
 gagagaggca gcagcttgct cagcggacaa ggatgctggg cgtgagggac 50

 caaggcctgc cctgcactcg ggcctcctcc agccagtgct gaccagggac 100

 ttctgacctg ctggccagcc aggacctgtg tggggaggcc ctcctgctgc 150

 cttggggtga caatctcagc tccaggctac agggagaccg ggaggatcac 200

 agagccagca tgttacagga tcctgacagt gatcaacctc tgaacagcct 250

 cgatgtcaaa cccctgcgca aaccccgtat ccccatggag accttcagaa 300

 aggtggggat ccccatcatc atagcactac tgagcctggc gagtatcatc 350

 attgtggttg tcctcatcaa ggtgattctg gataaatact acttcctctg 400

 cgggcagcct ctccacttca tcccgaggaa gcagctgtgt gacggagagc 450
```

```
tggactgtcc cttggggggag gacgaggagc actgtgtcaa gagcttcccc 500

gaagggcctg cagtggcagt ccgcctctcc aaggaccgat ccacactgca 550

ggtgctggac tcggccacag ggaactggtt ctctgcctgt ttcgacaact 600

tcacagaagc tctcgctgag acagcctgta ggcagatggg ctacagcaga 650

gctgtggaga ttggcccaga ccaggatctg gatgttgttg aaatcacaga 700

aaacagccag gagcttcgca tgcggaactc aagtgggccc tgtctctcag 750

gctccctggt ctccctgcac tgtcttgcct gtgggaagag cctgaagacc 800

ccccgtgtgg tgggtggggga ggaggcctct gtggattctt ggccttggca 850

ggtcagcatc cagtacgaca aacagcacgt ctgtggaggg agcatcctgg 900

accccccactg ggtcctcacg gcagcccact gcttcaggaa acataccgat 950

gtgttcaact ggaaggtgcg ggcaggctca gacaaactgg gcagcttccc 1000

atccctggct gtggccaaga tcatcatcat tgaattcaac cccatgtacc 1050

ccaaagacaa tgacatcgcc ctcatgaagc tgcagttccc actcactttc 1100

tcaggcacag tcaggcccat ctgtctgccc ttctttgatg aggagctcac 1150

tccagccacc ccactctgga tcattggatg gggctttacg aagcagaatg 1200

gagggaagat gtctgacata ctgctgcagg cgtcagtcca ggtcattgac 1250

agcacacggt gcaatgcaga cgatgcgtac caggggaag tcaccgagaa 1300

gatgatgtgt gcaggcatcc cggaaggggg tgtggacacc tgccagggtg 1350

acagtggtgg gcccctgatg taccaatctg accagtggca tgtggtgggc 1400

atcgttagct ggggctatgg ctgcggggggc ccgagcaccc caggagtata 1450

caccaaggtc tcagcctatc tcaactggat ctacaatgtc tggaaggctg 1500

agctgtaatg ctgctgcccc tttgcagtgc tgggagccgc ttccttcctg 1550

ccctgcccac ctggggatcc cccaaagtca gacacagagc aagagtcccc 1600

ttgggtacac ccctctgccc acagcctcag catttcttgg agcagcaaag 1650

ggcctcaatt cctgtaagag accctcgcag cccagaggcg cccagaggaa 1700

gtcagcagcc ctagctcggc cacacttggt gctcccagca tcccagggag 1750

agacacagcc cactgaacaa ggtctcaggg gtattgctaa gccaagaagg 1800

aactttccca cactactgaa tggaagcagg ctgtcttgta aaagcccaga 1850

tcactgtggg ctggagagga gaaggaaagg gtctgcgcca gccctgtccg 1900
```

```
tcttcaccca tccccaagcc tactagagca agaaaccagt tgtaatataa 1950

aatgcactgc cctactgttg gtatgactac cgttacctac tgttgtcatt 2000

gttattacag ctatggccac tattattaaa gagctgtgta acatctctgg 2050

caaaaaaaaa aaa 2063
```

<210> 112
<211> 432
<212> PRT
<213> Homo Sapien

<400> 112

```
Met Leu Gln Asp Pro Asp Ser Asp Gln Pro Leu Asn Ser Leu Asp
 1               5                  10                  15

Val Lys Pro Leu Arg Lys Pro Arg Ile Pro Met Glu Thr Phe Arg
                20                  25                  30

Lys Val Gly Ile Pro Ile Ile Ile Ala Leu Leu Ser Leu Ala Ser
                35                  40                  45

Ile Ile Ile Val Val Val Leu Ile Lys Val Ile Leu Asp Lys Tyr
                50                  55                  60

Tyr Phe Leu Cys Gly Gln Pro Leu His Phe Ile Pro Arg Lys Gln
                65                  70                  75

Leu Cys Asp Gly Glu Leu Asp Cys Pro Leu Gly Glu Asp Glu Glu
                80                  85                  90

His Cys Val Lys Ser Phe Pro Glu Gly Pro Ala Val Ala Val Arg
                95                  100                 105

Leu Ser Lys Asp Arg Ser Thr Leu Gln Val Leu Asp Ser Ala Thr
                110                 115                 120

Gly Asn Trp Phe Ser Ala Cys Phe Asp Asn Phe Thr Glu Ala Leu
                125                 130                 135

Ala Glu Thr Ala Cys Arg Gln Met Gly Tyr Ser Arg Ala Val Glu
                140                 145                 150

Ile Gly Pro Asp Gln Asp Leu Asp Val Val Glu Ile Thr Glu Asn
                155                 160                 165

Ser Gln Glu Leu Arg Met Arg Asn Ser Ser Gly Pro Cys Leu Ser
                170                 175                 180

Gly Ser Leu Val Ser Leu His Cys Leu Ala Cys Gly Lys Ser Leu
                185                 190                 195

Lys Thr Pro Arg Val Val Gly Gly Glu Glu Ala Ser Val Asp Ser
                200                 205                 210
```

```
Trp Pro Trp Gln Val Ser Ile Gln Tyr Asp Lys Gln His Val Cys
            215                 220                 225

Gly Gly Ser Ile Leu Asp Pro His Trp Val Leu Thr Ala Ala His
            230                 235                 240

Cys Phe Arg Lys His Thr Asp Val Phe Asn Trp Lys Val Arg Ala
            245                 250                 255

Gly Ser Asp Lys Leu Gly Ser Phe Pro Ser Leu Ala Val Ala Lys
            260                 265                 270

Ile Ile Ile Ile Glu Phe Asn Pro Met Tyr Pro Lys Asp Asn Asp
            275                 280                 285

Ile Ala Leu Met Lys Leu Gln Phe Pro Leu Thr Phe Ser Gly Thr
            290                 295                 300

Val Arg Pro Ile Cys Leu Pro Phe Phe Asp Glu Glu Leu Thr Pro
            305                 310                 315

Ala Thr Pro Leu Trp Ile Ile Gly Trp Gly Phe Thr Lys Gln Asn
            320                 325                 330

Gly Gly Lys Met Ser Asp Ile Leu Leu Gln Ala Ser Val Gln Val
            335                 340                 345

Ile Asp Ser Thr Arg Cys Asn Ala Asp Asp Ala Tyr Gln Gly Glu
            350                 355                 360

Val Thr Glu Lys Met Met Cys Ala Gly Ile Pro Glu Gly Gly Val
            365                 370                 375

Asp Thr Cys Gln Gly Asp Ser Gly Gly Pro Leu Met Tyr Gln Ser
            380                 385                 390

Asp Gln Trp His Val Val Gly Ile Val Ser Trp Gly Tyr Gly Cys
            395                 400                 405

Gly Gly Pro Ser Thr Pro Gly Val Tyr Thr Lys Val Ser Ala Tyr
            410                 415                 420

Leu Asn Trp Ile Tyr Asn Val Trp Lys Ala Glu Leu
            425                 430
```

<210> 113
<211> 1768
<212> DNA
<213> Homo Sapien

<400> 113
 ggctggactg gaactcctgg tcccaagtga tccacccgcc tcagcctccc 50

 aaggtgctgt gattataggt gtaagccacc gtgtctggcc tctgaacaac 100

 tttttcagca actaaaaaag ccacaggagt tgaactgcta ggattctgac 150

```
tatgctgtgg tggctagtgc tcctactcct acctacatta aaatctgttt 200

tttgttctct tgtaactagc ctttaccttc ctaacacaga ggatctgtca 250

ctgtggctct ggcccaaacc tgaccttcac tctggaacga gaacagaggt 300

ttctacccac accgtccct cgaagccggg gacagcctca ccttgctggc 350

ctctcgctgg agcagtgccc tcaccaactg tctcacgtct ggaggcactg 400

actcgggcag tgcaggtagc tgagcctctt ggtagctgcg gctttcaagg 450

tgggccttgc cctggccgta gaagggattg acaagcccga agatttcata 500

ggcgatggct cccactgccc aggcatcagc cttgctgtag tcaatcactg 550
ccctggggcc aggacgggcc gtggacacct gctcagaagc agtgggtgag 600

acatcacgct gcccgcccat ctaaccтttt catgtcctgc acatcacctg 650

atccatgggc taatctgaac tctgtcccaa ggaacccaga gcttgagtga 700

gctgtggctc agacccagaa ggggtctgct tagaccacct ggtttatgtg 750

acaggacttg cattctcctg gaacatgagg gaacgccgga ggaaagcaaa 800

gtggcaggga aggaacttgt gccaaattat gggtcagaaa agatggaggt 850

gttgggttat cacaaggcat cgagtctcct gcattcagtg gacatgtggg 900

ggaagggctg ccgatggcgc atgacacact cgggactcac ctctggggcc 950

atcagacagc cgtttccgcc ccgatccacg taccagctgc tgaagggcaa 1000

ctgcaggccg atgctctcat cagccaggca gcagccaaaa tctgcgatca 1050

ccagccaggg gcagccgtct gggaaggagc aagcaaagtg accatttctc 1100

ctcccctcct tccctctgag aggccctcct atgtccctac taaagccacc 1150

agcaagacat agctgacagg ggctaatggc tcagtgttgg cccaggaggt 1200

cagcaaggcc tgagagctga tcagaagggc ctgctgtgcg aacacggaaa 1250

tgcctccagt aagcacaggc tgcaaaatcc ccaggcaaag gactgtgtgg 1300

ctcaatttaa atcatgttct agtaattgga gctgtcccca agaccaaagg 1350

agctagagct tggttcaaat gatctccaag ggcccttata ccccaggaga 1400

ctttgatttg aatttgaaac cccaaatcca aacctaagaa ccaggtgcat 1450

taagaatcag ttattgccgg gtgtggtggc ctgtaatgcc aacattttgg 1500

gaggccgagg cgggtagatc acctgaggtc aggagttcaa gaccagcctg 1550

gccaacatgg tgaaacccct gtctctacta aaaatacaaa aaaactagcc 1600
```

```
      aggcatggtg gtgtgtgcct gtatcccagc tactcgggag gctgagacag 1650

      gagaattact tgaacctggg aggtgaagga ggctgagaca ggagaatcac 1700

      ttcagcctga gcaacacagc gagactctgt ctcagaaaaa ataaaaaaag 1750

      aattatggtt atttgtaa 1768
```

<210> 114
<211> 109
<212> PRT
<213> Homo Sapien

<400> 114
```
 Met Leu Trp Trp Leu Val Leu Leu Leu Pro Thr Leu Lys Ser
  1               5                  10                 15

 Val Phe Cys Ser Leu Val Thr Ser Leu Tyr Leu Pro Asn Thr Glu
                 20                  25                 30

 Asp Leu Ser Leu Trp Leu Trp Pro Lys Pro Asp Leu His Ser Gly
                 35                  40                 45

 Thr Arg Thr Glu Val Ser Thr His Thr Val Pro Ser Lys Pro Gly
                 50                  55                 60

 Thr Ala Ser Pro Cys Trp Pro Leu Ala Gly Ala Val Pro Ser Pro
                 65                  70                 75

 Thr Val Ser Arg Leu Glu Ala Leu Thr Arg Ala Val Gln Val Ala
                 80                  85                 90

 Glu Pro Leu Gly Ser Cys Gly Phe Gln Gly Gly Pro Cys Pro Gly
                 95                 100                105

 Arg Arg Arg Asp
```

<210> 115
<211> 1197
<212> DNA
<213> Homo Sapien

<400> 115
```
 cagcagtggt ctctcagtcc tctcaaagca aggaaagagt actgtgtgct 50

 gagagaccat ggcaaagaat cctccagaga attgtgaaga ctgtcacatt 100

 ctaaatgcag aagcttttaa atccaagaaa atatgtaaat cacttaagat 150

 ttgtggactg gtgtttggta tcctggccct aactctaatt gtcctgtttt 200

 gggggagcaa gcacttctgg ccggaggtac ccaaaaaagc ctatgacatg 250

 gagcacactt tctacagcaa tggagagaag aagaagattt acatggaaat 300

 tgatcctgtg accagaactg aaatattcag aagcggaaat ggcactgatg 350
```

```
aaacattgga agtgcacgac tttaaaaacg gatacactgg catctacttc 400

gtgggtcttc aaaaatgttt tatcaaaact cagattaaag tgattcctga 450

attttctgaa ccagaagagg aaatagatga gaatgaagaa attaccacaa 500

ctttctttga acagtcagtg atttgggtcc cagcagaaaa gcctattgaa 550

aaccgagatt ttcttaaaaa ttccaaaatt ctggagattt gtgataacgt 600

gaccatgtat tggatcaatc ccactctaat atcagtttct gagttacaag 650

actttgagga ggagggagaa gatcttcact ttcctgccaa cgaaaaaaaa 700

gggattgaac aaaatgaaca gtgggtggtc cctcaagtga aagtagagaa 750

gacccgtcac gccagacaag caagtgagga agaacttcca ataaatgact 800

atactgaaaa tggaatagaa tttgatccca tgctggatga gagaggttat 850

tgttgtattt actgccgtcg aggcaaccgc tattgccgcc gcgtctgtga 900

acctttacta ggctactacc catatccata ctgctaccaa ggaggacgag 950

tcatctgtcg tgtcatcatg ccttgtaact ggtgggtggc ccgcatgctg 1000

gggagggtct aataggaggt ttgagctcaa atgcttaaac tgctggcaac 1050

atataataaa tgcatgctat tcaatgaatt tctgcctatg aggcatctgg 1100

cccctggtag ccagctctcc agaattactt gtaggtaatt cctctcttca 1150

tgttctaata aacttctaca ttatcaccaa aaaaaaaaa aaaaaaa 1197
```

<210> 116
<211> 317
<212> PRT
<213> Homo Sapien

<400> 116
```
 Met Ala Lys Asn Pro Pro Glu Asn Cys Glu Asp Cys His Ile Leu
  1               5                  10                  15

 Asn Ala Glu Ala Phe Lys Ser Lys Lys Ile Cys Lys Ser Leu Lys
                 20                  25                  30

 Ile Cys Gly Leu Val Phe Gly Ile Leu Ala Leu Thr Leu Ile Val
                 35                  40                  45

 Leu Phe Trp Gly Ser Lys His Phe Trp Pro Glu Val Pro Lys Lys
                 50                  55                  60

 Ala Tyr Asp Met Glu His Thr Phe Tyr Ser Asn Gly Glu Lys Lys
                 65                  70                  75

 Lys Ile Tyr Met Glu Ile Asp Pro Val Thr Arg Thr Glu Ile Phe
```

Arg Ser Gly Asn Gly Thr Asp Glu Thr Leu Glu Val His Asp Phe
                95   100   105

Lys Asn Gly Tyr Thr Gly Ile Tyr Phe Val Gly Leu Gln Lys Cys
                110   115   120

Phe Ile Lys Thr Gln Ile Lys Val Ile Pro Glu Phe Ser Glu Pro
                125   130   135

Glu Glu Glu Ile Asp Glu Asn Glu Glu Ile Thr Thr Thr Phe Phe
                140   145   150

Glu Gln Ser Val Ile Trp Val Pro Ala Glu Lys Pro Ile Glu Asn
                155   160   165

Arg Asp Phe Leu Lys Asn Ser Lys Ile Leu Glu Ile Cys Asp Asn
                170   175   180

Val Thr Met Tyr Trp Ile Asn Pro Thr Leu Ile Ser Val Ser Glu
                185   190   195

Leu Gln Asp Phe Glu Glu Glu Gly Glu Asp Leu His Phe Pro Ala
                200   205   210

Asn Glu Lys Lys Gly Ile Glu Gln Asn Glu Gln Trp Val Val Pro
                215   220   225

Gln Val Lys Val Glu Lys Thr Arg His Ala Arg Gln Ala Ser Glu
                230   235   240

Glu Glu Leu Pro Ile Asn Asp Tyr Thr Glu Asn Gly Ile Glu Phe
                245   .   250   255

Asp Pro Met Leu Asp Glu Arg Gly Tyr Cys Cys Ile Tyr Cys Arg
                260   265   270

Arg Gly Asn Arg Tyr Cys Arg Arg Val Cys Glu Pro Leu Leu Gly
                275   280   285

Tyr Tyr Pro Tyr Pro Tyr Cys Tyr Gln Gly Gly Arg Val Ile Cys
                290   295   300

Arg Val Ile Met Pro Cys Asn Trp Trp Val Ala Arg Met Leu Gly
                305   310   315

Arg Val

<210> 117
<211> 2121
<212> DNA
<213> Homo Sapien

<400> 117
 gagctcccct caggagcgcg ttagcttcac accttcggca gcaggagggc 50

```
ggcagcttct cgcaggcggc agggcgggcg gccaggatca tgtccaccac 100

cacatgccaa gtggtggcgt tcctcctgtc catcctgggg ctggccggct 150

gcatcgcggc caccgggatg gacatgtgga gcacccagga cctgtacgac 200

aaccccgtca cctccgtgtt ccagtacgaa gggctctgga ggagctgcgt 250

gaggcagagt tcaggcttca ccgaatgcag gccctatttc accatcctgg 300

gacttccagc catgctgcag gcagtgcgag ccctgatgat cgtaggcatc 350

gtcctgggtg ccattggcct cctggtatcc atctttgccc tgaaatgcat 400

ccgcattggc agcatggagg actctgccaa agccaacatg acactgacct 450

ccgggatcat gttcattgtc tcaggtcttt gtgcaattgc tggagtgtct 500

gtgtttgcca acatgctggt gactaacttc tggatgtcca cagctaacat 550

gtacaccggc atgggtggga tggtgcagac tgttcagacc aggtacacat 600

ttggtgcggc tctgttcgtg ggctgggtcg ctggaggcct cacactaatt 650

gggggtgtga tgatgtgcat cgcctgccgg ggcctggcac cagaagaaac 700

caactacaaa gccgtttctt atcatgcctc aggccacagt gttgcctaca 750

agcctggagg cttcaaggcc agcactggct ttgggtccaa caccaaaaac 800

aagaagatat acgatggagg tgcccgcaca gaggacgagg tacaatctta 850

tccttccaag cacgactatg tgtaatgctc taagacctct cagcacgggc 900

ggaagaaact cccggagagc tcacccaaaa aacaaggaga tcccatctag 950

atttcttctt gcttttgact cacagctgga agttagaaaa gcctcgattt 1000

catctttgga gaggccaaat ggtcttagcc tcagtctctg tctctaaata 1050

ttccaccata aaacagctga gttatttatg aattagaggc tatagctcac 1100

attttcaatc ctctatttct tttttaaat ataactttct actctgatga 1150

gagaatgtgg ttttaatctc tctctcacat tttgatgatt tagacagact 1200

cccctcttc ctcctagtca ataaacccat tgatgatcta tttcccagct 1250

tatccccaag aaaacttttg aaaggaaaga gtagacccaa agatgttatt 1300

ttctgctgtt tgaattttgt ctccccaccc ccaacttggc tagtaataaa 1350

cacttactga agaagaagca ataagagaaa gatatttgta atctctccag 1400

cccatgatct cggttttctt acactgtgat cttaaaagtt accaaaccaa 1450
```

```
agtcattttc agtttgaggc aaccaaacct ttctactgct gttgacatct 1500

tcttattaca gcaacaccat tctaggagtt tcctgagctc tccactggag 1550

tcctctttct gtcgcgggtc agaaattgtc cctagatgaa tgagaaaatt 1600

attttttta atttaagtcc taaatatagt taaataaat aatgttttag 1650

taaaatgata cactatctct gtgaaatagc ctcaccccta catgtggata 1700

gaaggaaatg aaaaaataat tgctttgaca ttgtctatat ggtactttgt 1750

aaagtcatgc ttaagtacaa attccatgaa aagctcacac ctgtaatcct 1800

agcactttgg gaggctgagg aggaaggatc acttgagccc agaagttcga 1850

gactagcctg ggcaacatgg agaagccctg tctctacaaa atacagagag 1900

aaaaaatcag ccagtcatgg tggcatacac ctgtagtccc agcattccgg 1950

gaggctgagg tgggaggatc acttgagccc agggaggttg gggctgcagt 2000

gagccatgat cacaccactg cactccagcc aggtgacata gcgagatcct 2050

gtctaaaaaa ataaaaaata aataatggaa cacagcaagt cctaggaagt 2100

aggttaaaac taattcttta a 2121
```

<210> 118
<211> 261
<212> PRT
<213> Homo Sapien

<400> 118

```
Met Ser Thr Thr Thr Cys Gln Val Val Ala Phe Leu Leu Ser Ile
 1               5                  10                  15

Leu Gly Leu Ala Gly Cys Ile Ala Ala Thr Gly Met Asp Met Trp
                20                  25                  30

Ser Thr Gln Asp Leu Tyr Asp Asn Pro Val Thr Ser Val Phe Gln
                35                  40                  45

Tyr Glu Gly Leu Trp Arg Ser Cys Val Arg Gln Ser Ser Gly Phe
                50                  55                  60

Thr Glu Cys Arg Pro Tyr Phe Thr Ile Leu Gly Leu Pro Ala Met
                65                  70                  75

Leu Gln Ala Val Arg Ala Leu Met Ile Val Gly Ile Val Leu Gly
                80                  85                  90

Ala Ile Gly Leu Leu Val Ser Ile Phe Ala Leu Lys Cys Ile Arg
                95                  100                 105

Ile Gly Ser Met Glu Asp Ser Ala Lys Ala Asn Met Thr Leu Thr
                110                 115                 120
```

```
Ser Gly Ile Met Phe Ile Val Ser Gly Leu Cys Ala Ile Ala Gly
            125             130             135

Val Ser Val Phe Ala Asn Met Leu Val Thr Asn Phe Trp Met Ser
            140             145             150

Thr Ala Asn Met Tyr Thr Gly Met Gly Gly Met Val Gln Thr Val
            155             160             165

Gln Thr Arg Tyr Thr Phe Gly Ala Ala Leu Phe Val Gly Trp Val
            170             175             180

Ala Gly Gly Leu Thr Leu Ile Gly Gly Val Met Met Cys Ile Ala
            185             190             195

Cys Arg Gly Leu Ala Pro Glu Glu Thr Asn Tyr Lys Ala Val Ser
            200             205             210

Tyr His Ala Ser Gly His Ser Val Ala Tyr Lys Pro Gly Gly Phe
            215             220             225

Lys Ala Ser Thr Gly Phe Gly Ser Asn Thr Lys Asn Lys Lys Ile
            230             235             240

Tyr Asp Gly Gly Ala Arg Thr Glu Asp Glu Val Gln Ser Tyr Pro
            245             250             255

Ser Lys His Asp Tyr Val
            260
```

<210> 119
<211> 2010
<212> DNA
<213> Homo Sapien

<400> 119

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ggaaaaactg ttctcttctg tggcacagag aaccctgctt caaagcagaa  50

gtagcagttc cggagtccag ctggctaaaa ctcatcccag aggataatgg  100

caacccatgc cttagaaatc gctgggctgt ttcttggtgg tgttggaatg  150

gtgggcacag tggctgtcac tgtcatgcct cagtggagag tgtcggcctt  200

cattgaaaac aacatcgtgg tttttgaaaa cttctgggaa ggactgtgga  250

tgaattgcgt gaggcaggct aacatcagga tgcagtgcaa aatctatgat  300

tccctgctgg ctctttctcc ggacctacag gcagccagag gactgatgtg  350

tgctgcttcc gtgatgtcct tcttggcttt catgatggcc atccttggca  400

tgaaatgcac caggtgcacg ggggacaatg agaaggtgaa ggctcacatt  450

ctgctgacgg ctggaatcat cttcatcatc acgggcatgg tggtgctcat  500
```

```
ccctgtgagc tgggttgcca atgccatcat cagagatttc tataactcaa 550

tagtgaatgt tgcccaaaaa cgtgagcttg gagaagctct ctacttagga 600

tggaccacgg cactggtgct gattgttgga ggagctctgt tctgctgcgt 650

tttttgttgc aacgaaaaga gcagtagcta cagatactcg ataccttccc 700

atcgcacaac ccaaaaaagt tatcacaccg gaaagaagtc accgagcgtc 750

tactccagaa gtcagtatgt gtagttgtgt atgttttttt aactttacta 800

taaagccatg caaatgacaa aaatctatat tactttctca aaatggaccc 850

caaagaaact ttgatttact gttcttaact gcctaatctt aattacagga 900

actgtgcatc agctatttat gattctataa gctatttcag cagaatgaga 950

tattaaaccc aatgctttga ttgttctaga aagtatagta atttgttttc 1000

taaggtggtt caagcatcta ctcttttat catttacttc aaaatgacat 1050

tgctaaagac tgcattattt tactactgta atttctccac gacatagcat 1100

tatgtacata gatgagtgta acatttatat ctcacataga gacatgctta 1150

tatggtttta tttaaaatga aatgccagtc cattacactg aataaataga 1200

actcaactat tgcttttcag ggaaatcatg gatagggttg aagaaggtta 1250

ctattaattg tttaaaaaca gcttagggat taatgtcctc catttataat 1300

gaagattaaa atgaaggctt taatcagcat tgtaaaggaa attgaatggc 1350

tttctgatat gctgtttttt agcctaggag ttagaaatcc taacttcttt 1400

atcctcttct cccagaggct ttttttttct tgtgtattaa attaacattt 1450

ttaaaacgca gatattttgt caaggggctt tgcattcaaa ctgcttttcc 1500

agggctatac tcagaagaaa gataaaagtg tgatctaaga aaaagtgatg 1550

gtttaggaa agtgaaaata tttttgtttt tgtatttgaa gaagaatgat 1600

gcattttgac aagaaatcat atatgtatgg atatatttta ataagtattt 1650

gagtacagac tttgaggttt catcaatata aataaaagag cagaaaaata 1700

tgtcttggtt ttcatttgct taccaaaaaa acaacaacaa aaaagttgt 1750

cctttgagaa cttcacctgc tcctatgtgg gtacctgagt caaaattgtc 1800

attttttgttc tgtgaaaaat aaatttcctt cttgtaccat ttctgtttag 1850

ttttactaaa atctgtaaat actgtatttt tctgtttatt ccaaatttga 1900

tgaaactgac aatccaattt gaaagtttgt gtcgacgtct gtctagctta 1950
```

```
   aatgaatgtg ttctatttgc tttatacatt tatattaata aattgtacat 2000

   ttttctaatt 2010


<210> 120
<211> 225
<212> PRT
<213> Homo Sapien

<400> 120
 Met Ala Thr His Ala Leu Glu Ile Ala Gly Leu Phe Leu Gly Gly
  1               5                  10                  15

 Val Gly Met Val Gly Thr Val Ala Val Thr Val Met Pro Gln Trp
                 20                  25                  30

 Arg Val Ser Ala Phe Ile Glu Asn Asn Ile Val Val Phe Glu Asn
                 35                  40                  45

 Phe Trp Glu Gly Leu Trp Met Asn Cys Val Arg Gln Ala Asn Ile
                 50                  55                  60

 Arg Met Gln Cys Lys Ile Tyr Asp Ser Leu Leu Ala Leu Ser Pro
                 65                  70                  75

 Asp Leu Gln Ala Ala Arg Gly Leu Met Cys Ala Ala Ser Val Met
                 80                  85                  90

 Ser Phe Leu Ala Phe Met Met Ala Ile Leu Gly Met Lys Cys Thr
                 95                 100                 105

 Arg Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His Ile Leu Leu
                110                 115                 120

 Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val Leu Ile
                125                 130                 135

 Pro Val Ser Trp Val Ala Asn Ala Ile Ile Arg Asp Phe Tyr Asn
                140                 145                 150

 Ser Ile Val Asn Val Ala Gln Lys Arg Glu Leu Gly Glu Ala Leu
                155                 160                 165

 Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly Gly Ala
                170                 175                 180

 Leu Phe Cys Cys Val Phe Cys Cys Asn Glu Lys Ser Ser Ser Tyr
                185                 190                 195

 Arg Tyr Ser Ile Pro Ser His Arg Thr Thr Gln Lys Ser Tyr His
                200                 205                 210

 Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser Arg Ser Gln Tyr Val
                215                 220                 225


<210> 121
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<211> 1257
<212> DNA
<213> Homo Sapien

<400> 121
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cggagcgcgg cggagccaga cgctgaccac gttcctctcc tcggtctcct 100

ccgcctccag ctccgcgctg cccggcagcc gggagccatg cgaccccagg 150

gccccgccgc ctccccgcag cggctccgcg gcctcctgct gctcctgctg 200

ctgcagctgc ccgcgccgtc gagcgcctct gagatcccca aggggaagca 250

aaaggcgcag ctccggcaga gggaggtggt ggacctgtat aatggaatgt 300

gcttacaagg gccagcagga gtgcctggtc gagacgggag ccctggggcc 350

aatgttattc cgggtacacc tgggatccca ggtcgggatg gattcaaagg 400

agaaaagggg gaatgtctga gggaaagctt tgaggagtcc tggacaccca 450

actacaagca gtgttcatgg agttcattga attatggcat agatcttggg 500

aaaattgcgg agtgtacatt tacaaagatg cgttcaaata gtgctctaag 550

agttttgttc agtggctcac ttcggctaaa atgcagaaat gcatgctgtc 600

agcgttggta tttcacattc aatggagctg aatgttcagg acctcttccc 650

attgaagcta taatttattt ggaccaagga agccctgaaa tgaattcaac 700

aattaatatt catcgcactt cttctgtgga aggactttgt gaaggaattg 750

gtgctggatt agtggatgtt gctatctggg ttggcacttg ttcagattac 800

ccaaaaggag atgcttctac tggatggaat tcagtttctc gcatcattat 850

tgaagaacta ccaaaataaa tgctttaatt ttcatttgct acctcttttt 900

ttattatgcc ttggaatggt tcacttaaat gacattttaa ataagtttat 950
gtatacatct gaatgaaaag caaagctaaa tatgtttaca gaccaaagtg 1000

tgatttcaca ctgtttttaa atctagcatt attcattttg cttcaatcaa 1050

aagtggtttc aatatttttt ttagttggtt agaatacttt cttcatagtc 1100

acattctctc aacctataat ttggaatatt gttgtggtct tttgtttttt 1150

ctcttagtat agcattttta aaaaaatata aaagctacca atctttgtac 1200

aatttgtaaa tgttaagaat ttttttata tctgttaaat aaaaattatt 1250

tccaaca 1257
```

<210> 122

<210> 243
<212> PRT
<213> Homo Sapien

<400> 122

```
Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly
 1               5                  10                  15

Leu Leu Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala
                20                  25                  30

Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg
                35                  40                  45

Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala
                50                  55                  60

Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro
                65                  70                  75

Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys
                80                  85                  90

Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn
                95                  100                 105

Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu
                110                 115                 120

Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser
                125                 130                 135

Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg
                140                 145                 150

Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu
                155                 160                 165

Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln
                170                 175                 180

Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser
                185                 190                 195

Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp
                200                 205                 210

Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp
                215                 220                 225

Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu
                230                 235                 240

Leu Pro Lys
```

<210> 123

<400> 123

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gctgagcgtg tgcgcggtac ggggctctcc tgccttctgg gctccaacgc 50

agctctgtgg ctgaactggg tgctcatcac gggaactgct gggctatgga 100

atacagatgt ggcagctcag gtagccccaa attgcctgga agaatacatc 150

atgtttttcg ataagaagaa attgtaggat ccagtttttt ttttaaccgc 200

cccctcccca cccccaaaa aaactgtaaa gatgcaaaaa cgtaatatcc 250

atgaagatcc tattacctag gaagattttg atgttttgct gcgaatgcgg 300

tgttgggatt tatttgttct tggagtgttc tgcgtggctg gcaaagaata 350

atgttccaaa atcggtccat ctcccaaggg gtccaatttt tcttcctggg 400

tgtcagcgag ccctgactca ctacagtgca gctgacaggg gctgtcatgc 450

aactggcccc taagccaaag caaaagacct aaggacgacc tttgaacaat 500

acaaaggatg ggtttcaatg taattaggct actgagcgga tcagctgtag 550

cactggttat agcccccact gtcttactga caatgctttc ttctgccgaa 600

cgaggatgcc ctaagggctg taggtgtgaa ggcaaaatgg tatattgtga 650

atctcagaaa ttacaggaga taccctcaag tatatctgct ggttgcttag 700

gtttgtccct tcgctataac agccttcaaa aacttaagta taatcaattt 750

aaagggctca accagctcac ctggctatac cttgaccata accatatcag 800

caatattgac gaaaatgctt ttaatggaat acgcagactc aaagagctga 850

ttcttagttc caatagaatc tcctattttc ttaacaatac cttcagacct 900

gtgacaaatt tacggaactt ggatctgtcc tataatcagc tgcattctct 950

gggatctgaa cagtttcggg gcttgcggaa gctgctgagt ttacatttac 1000

ggtctaactc cctgagaacc atccctgtgc gaatattcca agactgccgc 1050

aacctggaac ttttggacct gggatataac cggatccgaa gtttagccag 1100
gaatgtcttt gctggcatga tcagactcaa agaacttcac ctggagcaca 1150

atcaattttc caagctcaac ctggcccttt ttccaaggtt ggtcagcctt 1200

cagaaccttt acttgcagtg gaataaaatc agtgtcatag gacagaccat 1250

gtcctggacc tggagctcct tacaaaggct tgatttatca ggcaatgaga 1300

tcgaagcttt cagtggaccc agtgtttttcc agtgtgtccc gaatctgcag 1350
```

```
cgcctcaacc tggattccaa caagctcaca tttattggtc aagagatttt 1400

ggattcttgg atatccctca atgacatcag tcttgctggg aatatatggg 1450

aatgcagcag aaatatttgc tcccttgtaa actggctgaa aagttttaaa 1500

ggtctaaggg agaatacaat tatctgtgcc agtcccaaag agctgcaagg 1550

agtaaatgtg atcgatgcag tgaagaacta cagcatctgt ggcaaaagta 1600

ctacagagag gtttgatctg gccagggctc tcccaaagcc gacgtttaag 1650

cccaagctcc ccaggccgaa gcatgagagc aaaccccctt gcccccgac 1700

ggtgggagcc acagagcccg gcccagagac cgatgctgac gccgagcaca 1750

tctctttcca taaaatcatc gcgggcagcg tggcgctttt cctgtccgtg 1800

ctcgtcatcc tgctggttat ctacgtgtca tggaagcggt accctgcgag 1850

catgaagcag ctgcagcagc gctccctcat gcgaaggcac aggaaaaaga 1900

aaagacagtc cctaaagcaa atgactccca gcacccagga attttatgta 1950

gattataaac ccaccaacac ggagaccagc gagatgctgc tgaatgggac 2000

gggaccctgc acctataaca aatcgggctc cagggagtgt gaggtatgaa 2050

ccattgtgat aaaaagagct cttaaaagct gggaaataag tggtgcttta 2100

ttgaactctg gtgactatca agggaacgcg atgccccccc tccccttccc 2150

tctccctctc actttggtgg caagatcctt ccttgtccgt tttagtgcat 2200

tcataatact ggtcattttc ctctcataca taatcaaccc attgaaattt 2250

aaataccaca atcaatgtga agcttgaact ccggtttaat ataataccta 2300

ttgtataaga ccctttactg attccattaa tgtcgcattt gttttaagat 2350

aaaacttctt tcataggtaa aaaaaaaaa 2379
```

<210> 124
<211> 513
<212> PRT
<213> Homo Sapien

<400> 124

```
Met Gly Phe Asn Val Ile Arg Leu Leu Ser Gly Ser Ala Val Ala
 1               5                  10                  15
Leu Val Ile Ala Pro Thr Val Leu Leu Thr Met Leu Ser Ser Ala
                20                  25                  30

Glu Arg Gly Cys Pro Lys Gly Cys Arg Cys Glu Gly Lys Met Val
                35                  40                  45
```

```
Tyr Cys Glu Ser Gln Lys Leu Gln Glu Ile Pro Ser Ser Ile Ser
              50                      55                      60

Ala Gly Cys Leu Gly Leu Ser Leu Arg Tyr Asn Ser Leu Gln Lys
                  65                  70                      75

Leu Lys Tyr Asn Gln Phe Lys Gly Leu Asn Gln Leu Thr Trp Leu
                  80                  85                      90

Tyr Leu Asp His Asn His Ile Ser Asn Ile Asp Glu Asn Ala Phe
                  95                 100                     105

Asn Gly Ile Arg Arg Leu Lys Glu Leu Ile Leu Ser Ser Asn Arg
                 110                 115                     120

Ile Ser Tyr Phe Leu Asn Asn Thr Phe Arg Pro Val Thr Asn Leu
                 125                 130                     135

Arg Asn Leu Asp Leu Ser Tyr Asn Gln Leu His Ser Leu Gly Ser
                 140                 145                     150

Glu Gln Phe Arg Gly Leu Arg Lys Leu Leu Ser Leu His Leu Arg
                 155                 160                     165

Ser Asn Ser Leu Arg Thr Ile Pro Val Arg Ile Phe Gln Asp Cys
                 170                 175                     180

Arg Asn Leu Glu Leu Leu Asp Leu Gly Tyr Asn Arg Ile Arg Ser
                 185                 190                     195

Leu Ala Arg Asn Val Phe Ala Gly Met Ile Arg Leu Lys Glu Leu
                 200                 205                     210

His Leu Glu His Asn Gln Phe Ser Lys Leu Asn Leu Ala Leu Phe
                 215                 220                     225

Pro Arg Leu Val Ser Leu Gln Asn Leu Tyr Leu Gln Trp Asn Lys
                 230                 235                     240

Ile Ser Val Ile Gly Gln Thr Met Ser Trp Thr Trp Ser Ser Leu
                 245                 250                     255

Gln Arg Leu Asp Leu Ser Gly Asn Glu Ile Glu Ala Phe Ser Gly
                 260                 265                     270

Pro Ser Val Phe Gln Cys Val Pro Asn Leu Gln Arg Leu Asn Leu
                 275                 280                     285

Asp Ser Asn Lys Leu Thr Phe Ile Gly Gln Glu Ile Leu Asp Ser
                 290                 295                     300

Trp Ile Ser Leu Asn Asp Ile Ser Leu Ala Gly Asn Ile Trp Glu
                 305                 310                     315

Cys Ser Arg Asn Ile Cys Ser Leu Val Asn Trp Leu Lys Ser Phe
                 320                 325                     330
```

```
    Lys Gly Leu Arg Glu Asn Thr Ile Ile Cys Ala Ser Pro Lys Glu
                335                 340                 345

    Leu Gln Gly Val Asn Val Ile Asp Ala Val Lys Asn Tyr Ser Ile
                350                 355                 360

    Cys Gly Lys Ser Thr Thr Glu Arg Phe Asp Leu Ala Arg Ala Leu
                365                 370                 375

    Pro Lys Pro Thr Phe Lys Pro Lys Leu Pro Arg Pro Lys His Glu
                380                 385                 390

    Ser Lys Pro Pro Leu Pro Pro Thr Val Gly Ala Thr Glu Pro Gly
                395                 400                 405

    Pro Glu Thr Asp Ala Asp Ala Glu His Ile Ser Phe His Lys Ile
                410                 415                 420

    Ile Ala Gly Ser Val Ala Leu Phe Leu Ser Val Leu Val Ile Leu
                425                 430                 435

    Leu Val Ile Tyr Val Ser Trp Lys Arg Tyr Pro Ala Ser Met Lys
                440                 445                 450

    Gln Leu Gln Gln Arg Ser Leu Met Arg Arg His Arg Lys Lys Lys
                455                 460                 465

    Arg Gln Ser Leu Lys Gln Met Thr Pro Ser Thr Gln Glu Phe Tyr
                470                 475                 480

    Val Asp Tyr Lys Pro Thr Asn Thr Glu Thr Ser Glu Met Leu Leu
                485                 490                 495

    Asn Gly Thr Gly Pro Cys Thr Tyr Asn Lys Ser Gly Ser Arg Glu
                500                 505                 510

    Cys Glu Val


<210> 125
<211> 998
<212> DNA
<213> Homo Sapien

<400> 125
 ccgttatcgt cttgcgctac tgctgaatgt ccgtcccgga ggaggaggag 50

 aggcttttgc cgctgaccca gagatggccc cgagcgagca aattcctact 100

 gtccggctgc gcggctaccg tggccgagct agcaaccttt cccctggatc 150

 tcacaaaaac tcgactccaa atgcaaggag aagcagctct tgctcggttg 200

 ggagacggtg caagagaatc tgccccctat aggggaatgg tgcgcacagc 250

 cctagggatc attgaagagg aaggctttct aaagctttgg caaggagtga 300
```

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cacccgccat ttacagacac gtagtgtatt ctggaggtcg aatggtcaca 350

tatgaacatc tccgagaggt tgtgtttggc aaaagtgaag atgagcatta 400

tcccctttgg aaatcagtca ttggagggat gatggctggt gttattggcc 450

agtttttagc caatccaact gacctagtga aggttcagat gcaaatggaa 500

ggaaaaagga aactggaagg aaaaccattg cgatttcgtg gtgtacatca 550

tgcatttgca aaaatcttag ctgaaggagg aatacgaggg ctttgggcag 600

gctgggtacc aatatacaa agagcagcac tggtgaatat gggagattta 650

accacttatg atacagtgaa acactacttg gtattgaata caccacttga 700

ggacaatatc atgactcacg gtttatcaag tttatgttct ggactggtag 750

cttctattct gggaacacca gccgatgtca tcaaaagcag aataatgaat 800

caaccacgag ataaacaagg aaggggactt ttgtataaat catcgactga 850

ctgcttgatt caggctgttc aaggtgaagg attcatgagt ctatataaag 900

gcttttttacc atcttggctg agaatgaccc cttggtcaat ggtgttctgg 950

cttacttatg aaaaaatcag agagatgagt ggagtcagtc cattttaa 998
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<210> 126
<211> 323
<212> PRT
<213> Homo Sapien

<400> 126

Met	Ser	Val	Pro	Glu	Glu	Glu	Arg	Leu	Leu	Pro	Leu	Thr	Gln
1				5				10					15

| Arg | Trp | Pro | Arg | Ala | Ser | Lys | Phe | Leu | Leu | Ser | Gly | Cys | Ala | Ala |
| | | | 20 | | | | 25 | | | | | | 30 |

| Thr | Val | Ala | Glu | Leu | Ala | Thr | Phe | Pro | Leu | Asp | Leu | Thr | Lys | Thr |
| | | | 35 | | | | 40 | | | | | | 45 |

| Arg | Leu | Gln | Met | Gln | Gly | Glu | Ala | Ala | Leu | Ala | Arg | Leu | Gly | Asp |
| | | | 50 | | | | 55 | | | | | | 60 |

| Gly | Ala | Arg | Glu | Ser | Ala | Pro | Tyr | Arg | Gly | Met | Val | Arg | Thr | Ala |
| | | | 65 | | | | 70 | | | | | | 75 |

| Leu | Gly | Ile | Ile | Glu | Glu | Glu | Gly | Phe | Leu | Lys | Leu | Trp | Gln | Gly |
| | | | 80 | | | | 85 | | | | | | 90 |

| Val | Thr | Pro | Ala | Ile | Tyr | Arg | His | Val | Val | Tyr | Ser | Gly | Gly | Arg |
| | | | 95 | | | | 100 | | | | | | 105 |

| Met | Val | Thr | Tyr | Glu | His | Leu | Arg | Glu | Val | Val | Phe | Gly | Lys | Ser |
| | | | 110 | | | | 115 | | | | | | 120 |

```
Glu Asp Glu His Tyr Pro Leu Trp Lys Ser Val Ile Gly Gly Met
            125                 130                 135
Met Ala Gly Val Ile Gly Gln Phe Leu Ala Asn Pro Thr Asp Leu
            140                 145                 150

Val Lys Val Gln Met Gln Met Glu Gly Lys Arg Lys Leu Glu Gly
            155                 160                 165

Lys Pro Leu Arg Phe Arg Gly Val His His Ala Phe Ala Lys Ile
            170                 175                 180

Leu Ala Glu Gly Gly Ile Arg Gly Leu Trp Ala Gly Trp Val Pro
            185                 190                 195

Asn Ile Gln Arg Ala Ala Leu Val Asn Met Gly Asp Leu Thr Thr
            200                 205                 210

Tyr Asp Thr Val Lys His Tyr Leu Val Leu Asn Thr Pro Leu Glu
            215                 220                 225

Asp Asn Ile Met Thr His Gly Leu Ser Ser Leu Cys Ser Gly Leu
            230                 235                 240

Val Ala Ser Ile Leu Gly Thr Pro Ala Asp Val Ile Lys Ser Arg
            245                 250                 255

Ile Met Asn Gln Pro Arg Asp Lys Gln Gly Arg Gly Leu Leu Tyr
            260                 265                 270

Lys Ser Ser Thr Asp Cys Leu Ile Gln Ala Val Gln Gly Glu Gly
            275                 280                 285

Phe Met Ser Leu Tyr Lys Gly Phe Leu Pro Ser Trp Leu Arg Met
            290                 295                 300

Thr Pro Trp Ser Met Val Phe Trp Leu Thr Tyr Glu Lys Ile Arg
            305                 310                 315

Glu Met Ser Gly Val Ser Pro Phe
            320
```

<210> 127
<211> 1505
<212> DNA
<213> Homo Sapien

<400> 127
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 cgtcagctcc tcgacccccg tgtcgggcta gtccagcgag gcggacgggc 100

 ggcgtgggcc catggccagg cccggcatgg agcggtggcg cgaccggctg 150

 gcgctggtga cggggggcctc ggggggcatc ggcgcggccg tggcccgggc 200

 cctggtccag cagggactga aggtggtggg ctgcgcccgc actgtgggca 250
```

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acatcgagga gctggctgct gaatgtaaga gtgcaggcta ccccgggact 300

ttgatcccct acagatgtga cctatcaaat gaagaggaca tcctctccat 350

gttctcagct atccgttctc agcacagcgg tgtagacatc tgcatcaaca 400
atgctggctt ggcccggcct gacaccctgc tctcaggcag caccagtggt 450

tggaaggaca tgttcaatgt gaacgtgctg gccctcagca tctgcacacg 500

ggaagcctac cagtccatga aggagcggaa tgtggacgat gggcacatca 550

ttaacatcaa tagcatgtct ggccaccgag tgttacccct gtctgtgacc 600

cacttctata gtgccaccaa gtatgccgtc actgcgctga cagagggact 650

gaggcaagag cttcgggagg cccagaccca catccgagcc acgtgcatct 700

ctccaggtgt ggtggagaca caattcgcct tcaaactcca cgacaaggac 750

cctgagaagg cagctgccac ctatgagcaa atgaagtgtc tcaaacccga 800

ggatgtggcc gaggctgtta tctacgtcct cagcaccccc gcacacatcc 850

agattggaga catccagatg aggcccacgg agcaggtgac ctagtgactg 900

tgggagctcc tccttccctc cccacccttc atggcttgcc tcctgcctct 950

ggattttagg tgttgatttc tggatcacgg gataccactt cctgtccaca 1000

ccccgaccag gggctagaaa atttgtttga gatttttata tcatcttgtc 1050

aaattgcttc agttgtaaat gtgaaaaatg ggctggggaa aggaggtggt 1100

gtccctaatt gttttacttg ttaacttgtt cttgtgcccc tgggcacttg 1150

gcctttgtct gctctcagtg tcttcccttt gacatgggaa aggagttgtg 1200

gccaaaatcc ccatcttctt gcacctcaac gtctgtggct cagggctggg 1250

gtggcagagg gaggccttca ccttatatct gtgttgttat ccagggctcc 1300

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ccttctcggc tccccagccc agtcttggct tcttgtcccc tcctggggtc 1400

atccctccac tctgactctg actatggcag cagaacacca gggcctggcc 1450

cagtggattt catggtgatc attaaaaaag aaaaatcgca accaaaaaaa 1500

aaaaa 1505
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<210> 128
<211> 260
<212> PRT
<213> Homo Sapien

<400> 128

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Met Ala Arg Pro Gly Met Glu Arg Trp Arg Asp Arg Leu Ala Leu
 1               5                  10                  15

Val Thr Gly Ala Ser Gly Gly Ile Gly Ala Ala Val Ala Arg Ala
                20                  25                  30

Leu Val Gln Gln Gly Leu Lys Val Val Gly Cys Ala Arg Thr Val
                35                  40                  45
Gly Asn Ile Glu Glu Leu Ala Ala Glu Cys Lys Ser Ala Gly Tyr
                50                  55                  60

Pro Gly Thr Leu Ile Pro Tyr Arg Cys Asp Leu Ser Asn Glu Glu
                65                  70                  75

Asp Ile Leu Ser Met Phe Ser Ala Ile Arg Ser Gln His Ser Gly
                80                  85                  90

Val Asp Ile Cys Ile Asn Asn Ala Gly Leu Ala Arg Pro Asp Thr
                95                  100                 105

Leu Leu Ser Gly Ser Thr Ser Gly Trp Lys Asp Met Phe Asn Val
                110                 115                 120

Asn Val Leu Ala Leu Ser Ile Cys Thr Arg Glu Ala Tyr Gln Ser
                125                 130                 135

Met Lys Glu Arg Asn Val Asp Asp Gly His Ile Ile Asn Ile Asn
                140                 145                 150

Ser Met Ser Gly His Arg Val Leu Pro Leu Ser Val Thr His Phe
                155                 160                 165

Tyr Ser Ala Thr Lys Tyr Ala Val Thr Ala Leu Thr Glu Gly Leu
                170                 175                 180

Arg Gln Glu Leu Arg Glu Ala Gln Thr His Ile Arg Ala Thr Cys
                185                 190                 195

Ile Ser Pro Gly Val Val Glu Thr Gln Phe Ala Phe Lys Leu His
                200                 205                 210

Asp Lys Asp Pro Glu Lys Ala Ala Ala Thr Tyr Glu Gln Met Lys
                215                 220                 225

Cys Leu Lys Pro Glu Asp Val Ala Glu Ala Val Ile Tyr Val Leu
                230                 235                 240

Ser Thr Pro Ala His Ile Gln Ile Gly Asp Ile Gln Met Arg Pro
                245                 250                 255

Thr Glu Gln Val Thr
                260
```

<210> 129
<211> 1177
<212> DNA

<400> 129
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tcaggtgcag agtctcagtt gcccgggagc acctcccctc ccgaggcagt 150

ctgctcagag ggcctcggcc cagaattcca gttctggttt catgccagcc 200

tgtaaaaggc catggaactt tgggtgaatc accgatgcca tttaagaggg 250
ttttctgcca ggatggaaat gttaggtcgt tctgtgtctg cgctgttcat 300

ttcagtagcc accagccacc tgtggccgtt gagtgcttga aatgaggaac 350

tgagaaaatt aatttctcat gtatttttct catttatttta ttaattttta 400

actgatagtt gtacatattt ggggtacat gtgatatttg gatacatgta 450

tacaatatat aatgatcaaa tcagggtaac tgggatatcc atcacatcaa 500

acatttattt tttattcttt ttagacagag tctcactctg tcacccaggc 550

tggagtgcag tggtgccatc tcagcttact gcaacctctg cctgccaggt 600

tcaagcgatt ctcatgcctc acctcccaa gtagctggga ctacaggcat 650

gcaccacaat gcccaactaa ttttttgtatt tttagtagag acggggtttt 700

gccatgttgc ccaggctggc cttgaactcc tggcctcaaa caatccactt 750

gcctcggcct cccaaagtgt tatgattaca ggcgtgagcc accgtgcctg 800

gcctaaacat ttatctttc tttgtgttgg gaactttgaa attatacaat 850

gaattattgt taactgtcat ctccctgctg tgctatggaa cactgggact 900

tcttccctct atctaactgt atatttgtac cagttaacca accgtacttc 950

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tctacctcca tgagatccac ttttttagct cccacatgtg agtaagaaaa 1050

tgcaatattt gtctttctgt gcctggctta tttcacttaa cataatgact 1100

tcctgttcca tccatgttgc tgcaaatgac aggatttcgt tcttaatttc 1150

aattaaaata accacacatg gcaaaaa 1177
```

<400> 130
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Met Gly Leu Leu Leu Leu Val Leu Phe Leu Ser Leu Leu Pro Val
```

```
        1                 5                      10                        15

    Ala Tyr Thr Ile Met Ser Leu Pro Pro Ser Phe Asp Cys Gly Pro
                     20                  25                      30

    Phe Arg Cys Arg Val Ser Val Ala Arg Glu His Leu Pro Ser Arg
                     35                  40                      45

    Gly Ser Leu Leu Arg Gly Pro Arg Pro Arg Ile Pro Val Leu Val
                     50                  55                      60

    Ser Cys Gln Pro Val Lys Gly His Gly Thr Leu Gly Glu Ser Pro
                     65                  70                      75

    Met Pro Phe Lys Arg Val Phe Cys Gln Asp Gly Asn Val Arg Ser
                     80                  85                      90

    Phe Cys Val Cys Ala Val His Phe Ser Ser His Gln Pro Pro Val
                     95                  100                     105

    Ala Val Glu Cys Leu Lys
                     110
```

<210> 131
<211> 2061
<212> DNA
<213> Homo Sapien

<400> 131
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 atgatcagcg cagcctggag catcttcctc atcgggacta aaattgggct 100

 gttccttcaa gtagcacctc tatcagttat ggctaaatcc tgtccatctg 150

 tgtgtcgctg cgatgcgggt ttcatttact gtaatgatcg ctttctgaca 200

 tccattccaa caggaatacc agaggatgct acaactctct accttcagaa 250

 caaccaaata aataatgctg ggattccttc agatttgaaa aacttgctga 300

 aagtagaaag aatataccta taccacaaca gtttagatga atttcctacc 350

 aacctcccaa agtatgtaaa agagttacat ttgcaagaaa ataacataag 400

 gactatcact tatgattcac tttcaaaaat tccctatctg gaagaattac 450

 atttagatga caactctgtc tctgcagtta gcatagaaga gggagcattc 500

 cgagacagca actatctccg actgcttttc ctgtcccgta atcaccttag 550

 cacaattccc tggggtttgc ccaggactat agaagaacta cgcttggatg 600

 ataatcgcat atccactatt tcatcaccat ctcttcaagg tctcactagt 650

 ctaaaacgcc tggttctaga tggaaacctg ttgaacaatc atggtttagg 700
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```
tgacaaagtt ttcttcaacc tagttaattt gacagagctg tccctggtgc 750

ggaattccct gactgctgca ccagtaaacc ttccaggcac aaacctgagg 800

aagctttatc ttcaagataa ccacatcaat cgggtgcccc caaatgcttt 850

ttcttatcta aggcagctct atcgactgga tatgtccaat aataacctaa 900

gtaatttacc tcagggtatc tttgatgatt tggacaatat aacacaactg 950

attcttcgca acaatccctg gtattgcggg tgcaagatga aatgggtacg 1000

tgactggtta caatcactac ctgtgaaggt caacgtgcgt gggctcatgt 1050

gccaagcccc agaaaaggtt cgtgggatgg ctattaagga tctcaatgca 1100

gaactgtttg attgtaagga cagtgggatt gtaagcacca ttcagataac 1150

cactgcaata cccaacacag tgtatcctgc ccaaggacag tggccagctc 1200

cagtgaccaa acagccagat attaagaacc ccaagctcac taaggatcaa 1250

caaaccacag ggagtccctc aagaaaaaca attacaatta ctgtgaagtc 1300

tgtcacctct gataccattc atatctcttg gaaacttgct ctacctatga 1350

ctgctttgag actcagctgg cttaaactgg gccatagccc ggcatttgga 1400

tctataacag aaacaattgt aacaggggaa cgcagtgagt acttggtcac 1450

agccctggag cctgattcac cctataaagt atgcatggtt cccatggaaa 1500

ccagcaacct ctacctattt gatgaaactc ctgtttgtat tgagactgaa 1550

actgcacccc ttcgaatgta caaccctaca accaccctca atcgagagca 1600

agagaaagaa ccttacaaaa accccaattt acctttggct gccatcattg 1650

gtgggggctgt ggccctggtt accattgccc ttcttgcttt agtgtgttgg 1700

tatgttcata ggaatggatc gctcttctca aggaactgtg catatagcaa 1750

agggaggaga agaaaggatg actatgcaga agctggcact aagaaggaca 1800

actctatcct ggaaatcagg gaaacttctt ttcagatgtt accaataagc 1850

aatgaaccca tctcgaagga ggagtttgta atacacacca tatttcctcc 1900

taatggaatg aatctgtaca aaaacaatca cagtgaaagc agtagtaacc 1950

gaagctacag agacagtggt attccagact cagatcactc acactcatga 2000

tgctgaagga ctcacagcag acttgtgttt tgggtttttt aaacctaagg 2050

gaggtgatgg t 2061

<210> 132
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<211> 649
<212> PRT
<213> Homo Sapien

<400> 132

```
Met Ile Ser Ala Ala Trp Ser Ile Phe Leu Ile Gly Thr Lys Ile
 1               5                  10                  15

Gly Leu Phe Leu Gln Val Ala Pro Leu Ser Val Met Ala Lys Ser
                20                  25                  30

Cys Pro Ser Val Cys Arg Cys Asp Ala Gly Phe Ile Tyr Cys Asn
                35                  40                  45

Asp Arg Phe Leu Thr Ser Ile Pro Thr Gly Ile Pro Glu Asp Ala
                50                  55                  60

Thr Thr Leu Tyr Leu Gln Asn Asn Gln Ile Asn Asn Ala Gly Ile
                65                  70                  75

Pro Ser Asp Leu Lys Asn Leu Leu Lys Val Glu Arg Ile Tyr Leu
                80                  85                  90

Tyr His Asn Ser Leu Asp Glu Phe Pro Thr Asn Leu Pro Lys Tyr
                95                  100                 105

Val Lys Glu Leu His Leu Gln Glu Asn Asn Ile Arg Thr Ile Thr
                110                 115                 120

Tyr Asp Ser Leu Ser Lys Ile Pro Tyr Leu Glu Glu Leu His Leu
                125                 130                 135

Asp Asp Asn Ser Val Ser Ala Val Ser Ile Glu Glu Gly Ala Phe
                140                 145                 150

Arg Asp Ser Asn Tyr Leu Arg Leu Leu Phe Leu Ser Arg Asn His
                155                 160                 165

Leu Ser Thr Ile Pro Trp Gly Leu Pro Arg Thr Ile Glu Glu Leu
                170                 175                 180

Arg Leu Asp Asp Asn Arg Ile Ser Thr Ile Ser Ser Pro Ser Leu
                185                 190                 195

Gln Gly Leu Thr Ser Leu Lys Arg Leu Val Leu Asp Gly Asn Leu
                200                 205                 210

Leu Asn Asn His Gly Leu Gly Asp Lys Val Phe Phe Asn Leu Val
                215                 220                 225

Asn Leu Thr Glu Leu Ser Leu Val Arg Asn Ser Leu Thr Ala Ala
                230                 235                 240

Pro Val Asn Leu Pro Gly Thr Asn Leu Arg Lys Leu Tyr Leu Gln
                245                 250                 255

Asp Asn His Ile Asn Arg Val Pro Pro Asn Ala Phe Ser Tyr Leu
```

```
                  260                      265                      270

Arg Gln Leu Tyr Arg Leu Asp Met Ser Asn Asn Asn Leu Ser Asn
                275             280                      285

Leu Pro Gln Gly Ile Phe Asp Asp Leu Asp Asn Ile Thr Gln Leu
                290             295                      300

Ile Leu Arg Asn Asn Pro Trp Tyr Cys Gly Cys Lys Met Lys Trp
                305             310                      315

Val Arg Asp Trp Leu Gln Ser Leu Pro Val Lys Val Asn Val Arg
                320             325                      330

Gly Leu Met Cys Gln Ala Pro Glu Lys Val Arg Gly Met Ala Ile
                335             340                      345

Lys Asp Leu Asn Ala Glu Leu Phe Asp Cys Lys Asp Ser Gly Ile
                350             355                      360

Val Ser Thr Ile Gln Ile Thr Thr Ala Ile Pro Asn Thr Val Tyr
                365             370                      375

Pro Ala Gln Gly Gln Trp Pro Ala Pro Val Thr Lys Gln Pro Asp
                380             385                      390

Ile Lys Asn Pro Lys Leu Thr Lys Asp Gln Gln Thr Thr Gly Ser
                395             400                      405

Pro Ser Arg Lys Thr Ile Thr Ile Thr Val Lys Ser Val Thr Ser
                410             415                      420

Asp Thr Ile His Ile Ser Trp Lys Leu Ala Leu Pro Met Thr Ala
                425             430                      435

Leu Arg Leu Ser Trp Leu Lys Leu Gly His Ser Pro Ala Phe Gly
                440             445                      450

Ser Ile Thr Glu Thr Ile Val Thr Gly Glu Arg Ser Glu Tyr Leu
                455             460                      465

Val Thr Ala Leu Glu Pro Asp Ser Pro Tyr Lys Val Cys Met Val
                470             475                      480

Pro Met Glu Thr Ser Asn Leu Tyr Leu Phe Asp Glu Thr Pro Val
                485             490                      495

Cys Ile Glu Thr Glu Thr Ala Pro Leu Arg Met Tyr Asn Pro Thr
                500             505                      510

Thr Thr Leu Asn Arg Glu Gln Glu Lys Glu Pro Tyr Lys Asn Pro
                515             520                      525

Asn Leu Pro Leu Ala Ala Ile Ile Gly Gly Ala Val Ala Leu Val
                530             535                      540

Thr Ile Ala Leu Leu Ala Leu Val Cys Trp Tyr Val His Arg Asn
```

Gly Ser Leu Phe Ser Arg Asn Cys Ala Tyr Ser Lys Gly Arg Arg
                560   565   570

Arg Lys Asp Asp Tyr Ala Glu Ala Gly Thr Lys Lys Asp Asn Ser
                575   580   585

Ile Leu Glu Ile Arg Glu Thr Ser Phe Gln Met Leu Pro Ile Ser
                590   595   600

Asn Glu Pro Ile Ser Lys Glu Glu Phe Val Ile His Thr Ile Phe
                605   610   615

Pro Pro Asn Gly Met Asn Leu Tyr Lys Asn Asn His Ser Glu Ser
                620   625   630

Ser Ser Asn Arg Ser Tyr Arg Asp Ser Gly Ile Pro Asp Ser Asp
                635   640   645

His Ser His Ser

<210> 133
<211> 1882
<212> DNA
<213> Homo Sapien
<400> 133
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 ccaggcttct tggcagccct gccgggccac ttgtcttcat gtctgccagg 100

 gggaggtggg aaggaggtgg gaggagggcg tgcagaggca gtctgggctt 150

 ggccagagct cagggtgctg agcgtgtgac cagcagtgag cagaggccgg 200

 ccatggccag cctggggctg ctgctcctgc tcttactgac agcactgcca 250

 ccgctgtggt cctcctcact gcctgggctg gacactgctg aaagtaaagc 300

 caccattgca gacctgatcc tgtctgcgct ggagagagcc accgtcttcc 350

 tagaacagag gctgcctgaa atcaacctgg atggcatggt gggggtccga 400

 gtgctggaag agcagctaaa aagtgtccgg gagaagtggg cccaggagcc 450

 cctgctgcag ccgctgagcc tgcgcgtggg gatgctgggg gagaagctgg 500

 aggctgccat ccagagatcc ctccactacc tcaagctgag tgatcccaag 550

 tacctaagag agttccagct gaccctccag cccgggtttt ggaagctccc 600

 acatgcctgg atccacactg atgcctcctt ggtgtacccc acgttcgggc 650

 cccaggactc attctcagag gagagaagtg acgtgtgcct ggtgcagctg 700

 ctgggaaccg ggacggacag cagcgagccc tgcggcctct cagacctctg 750

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caggagcctc atgaccaagc ccggctgctc aggctactgc ctgtcccacc 800

aactgctctt cttcctctgg gccagaatga ggggatgcac acagggacca 850

ctccaacaga gccaggacta tatcaacctc ttctgcgcca acatgatgga 900

cttgaaccgc agagctgagg ccatcggata cgcctaccct acccgggaca 950

tcttcatgga aaacatcatg ttctgtggaa tgggcggctt ctccgacttc 1000

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tgggattata ggtgtgagcc accgtgtctg gctgaaaagc actttcaaag 1450

agactgtgtt gaataaaggg ccaaggttct tgccacccag cactcatggg 1500
ggctctctcc cctagatggc tgctcctccc acaacacagc cacagcagtg 1550

gcagccctgg gtggcttcct atacatcctg gcagaatacc ccccagcaaa 1600

cagagagcca cacccatcca caccgccacc accaagcagc cgctgagacg 1650

gacggttcca tgccagctgc ctggaggagg aacagacccc tttagtcctc 1700

atcccttaga tcctggaggg cacggatcac atcctgggaa gaaggcatct 1750

ggaggataag caaagccacc ccgacaccca atcttggaag ccctgagtag 1800

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aataaagttc aactgcaact gaaaaaaaaa aa 1882
```

<210> 134
<211> 440
<212> PRT
<213> Homo Sapien

<400> 134
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Met Ser Ala Arg Gly Arg Trp Glu Gly Gly Gly Arg Arg Ala Cys
 1               5                  10                  15

Arg Gly Ser Leu Gly Leu Ala Arg Ala Gln Gly Ala Glu Arg Val
                20                  25                  30
```

Thr Ser Ser Glu Gln Arg Pro Ala Met Ala Ser Leu Gly Leu Leu
              35   40   45

Leu Leu Leu Leu Leu Thr Ala Leu Pro Pro Leu Trp Ser Ser Ser
              50   55   60

Leu Pro Gly Leu Asp Thr Ala Glu Ser Lys Ala Thr Ile Ala Asp
              65   70   75

Leu Ile Leu Ser Ala Leu Glu Arg Ala Thr Val Phe Leu Glu Gln
              80   85   90

Arg Leu Pro Glu Ile Asn Leu Asp Gly Met Val Gly Val Arg Val
              95   100   105

Leu Glu Glu Gln Leu Lys Ser Val Arg Glu Lys Trp Ala Gln Glu
             110   115   120

Pro Leu Leu Gln Pro Leu Ser Leu Arg Val Gly Met Leu Gly Glu
             125   130   135

Lys Leu Glu Ala Ala Ile Gln Arg Ser Leu His Tyr Leu Lys Leu
             140   145   150

Ser Asp Pro Lys Tyr Leu Arg Glu Phe Gln Leu Thr Leu Gln Pro
             155   160   165

Gly Phe Trp Lys Leu Pro His Ala Trp Ile His Thr Asp Ala Ser
             170   175   180

Leu Val Tyr Pro Thr Phe Gly Pro Gln Asp Ser Phe Ser Glu Glu
             185   190   195
Arg Ser Asp Val Cys Leu Val Gln Leu Leu Gly Thr Gly Thr Asp
             200   205   210

Ser Ser Glu Pro Cys Gly Leu Ser Asp Leu Cys Arg Ser Leu Met
             215   220   225

Thr Lys Pro Gly Cys Ser Gly Tyr Cys Leu Ser His Gln Leu Leu
             230   235   240

Phe Phe Leu Trp Ala Arg Met Arg Gly Cys Thr Gln Gly Pro Leu
             245   250   255

Gln Gln Ser Gln Asp Tyr Ile Asn Leu Phe Cys Ala Asn Met Met
             260   265   270

Asp Leu Asn Arg Arg Ala Glu Ala Ile Gly Tyr Ala Tyr Pro Thr
             275   280   285

Arg Asp Ile Phe Met Glu Asn Ile Met Phe Cys Gly Met Gly Gly
             290   295   300

Phe Ser Asp Phe Tyr Lys Leu Arg Trp Leu Glu Ala Ile Leu Ser
             305   310   315

```
Trp Gln Lys Gln Gln Glu Gly Cys Phe Gly Glu Pro Asp Ala Glu
            320                 325                 330

Asp Glu Glu Leu Ser Lys Ala Ile Gln Tyr Gln Gln His Phe Ser
            335                 340                 345

Arg Arg Val Lys Arg Arg Glu Lys Gln Phe Pro Asp Ser Arg Ser
            350                 355                 360

Val Ala Gln Ala Gly Val Gln Trp Arg Asn Leu Gly Ser Leu Gln
            365                 370                 375

Pro Leu Pro Pro Gly Phe Lys Gln Phe Ser Cys Leu Ile Leu Pro
            380                 385                 390

Ser Ser Trp Asp Tyr Arg Ser Val Pro Pro Tyr Leu Ala Asn Phe
            395                 400                 405

Tyr Ile Phe Leu Val Glu Thr Gly Phe His His Val Ala His Ala
            410                 415 ·               420

Gly Leu Glu Leu Leu Ile Ser Arg Asp Pro Pro Thr Ser Gly Ser
            425                 430                 435

Gln Ser Val Gly Leu
            440

<210> 135
<211> 884
<212> DNA
<213> Homo Sapien

<400> 135
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 gcccggggct gctgctgagg gatcgggagg gagtggggtc ggcataggag 150

 atcgcttcaa gattgagggg cgtgcagttg ttccaggggt gaagcctcag 200

 gactggatct cggcggcccg agtgctggta gacggagaag agcacgtcgg 250

 tttccttaag acagatggga gttttgtggt tcatgatata ccttctggat 300

 cttatgtagt ggaagttgta tctccagctt acagatttga tcccgttcga 350

 gtggatatca cttcgaaagg aaaaatgaga gcaagatatg tgaattacat 400

 caaaacatca gaggttgtca gactgcccta tcctctccaa atgaaatctt 450

 caggtccacc ttcttacttt attaaaaggg aatcgtgggg ctggacagac 500

 tttctaatga acccaatggt tatgatgatg gttcttcctt tattgatatt 550

 tgtgcttctg cctaaagtgg tcaacacaag tgatcctgac atgagacggg 600

 aaatggagca gtcaatgaat atgctgaatt ccaaccatga gttgcctgat 650
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gtttctgagt tcatgacaag actcttctct tcaaaatcat ctggcaaatc 700

tagcagcggc agcagtaaaa caggcaaaag tggggctggc aaaaggaggt 750

agtcaggccg tccagagctg gcatttgcac aaacacggca acactgggtg 800

gcatccaagt cttggaaaac cgtgtgaagc aactactata aacttgagtc 850

atcccgacgt tgatctctta caactgtgta tgtt 884
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<210> 136
<211> 242
<212> PRT
<213> Homo Sapien

<400> 136

```
Met Ala Ala Ala Leu Trp Gly Phe Phe Pro Val Leu Leu Leu Leu
  1               5                  10                      15

Leu Leu Ser Gly Asp Val Gln Ser Ser Glu Val Pro Gly Ala Ala
                   20                  25                  30

Ala Glu Gly Ser Gly Gly Ser Gly Val Gly Ile Gly Asp Arg Phe
                   35                  40                  45

Lys Ile Glu Gly Arg Ala Val Val Pro Gly Val Lys Pro Gln Asp
                   50                  55                  60

Trp Ile Ser Ala Ala Arg Val Leu Val Asp Gly Glu Glu His Val
                   65                  70                  75

Gly Phe Leu Lys Thr Asp Gly Ser Phe Val Val His Asp Ile Pro
                   80                  85                  90

Ser Gly Ser Tyr Val Val Glu Val Val Ser Pro Ala Tyr Arg Phe
                   95                 100                 105

Asp Pro Val Arg Val Asp Ile Thr Ser Lys Gly Lys Met Arg Ala
                  110                 115                 120

Arg Tyr Val Asn Tyr Ile Lys Thr Ser Glu Val Val Arg Leu Pro
                  125                 130                 135

Tyr Pro Leu Gln Met Lys Ser Ser Gly Pro Pro Ser Tyr Phe Ile
                  140                 145                 150

Lys Arg Glu Ser Trp Gly Trp Thr Asp Phe Leu Met Asn Pro Met
                  155                 160                 165

Val Met Met Met Val Leu Pro Leu Leu Ile Phe Val Leu Leu Pro
                  170                 175                 180

Lys Val Val Asn Thr Ser Asp Pro Asp Met Arg Arg Glu Met Glu
                  185                 190                 195

Gln Ser Met Asn Met Leu Asn Ser Asn His Glu Leu Pro Asp Val
```

```
                200                      205                      210

     Ser Glu Phe Met Thr Arg Leu Phe Ser Ser Lys Ser Ser Gly Lys
                     215                 220                      225

     Ser Ser Ser Gly Ser Ser Lys Thr Gly Lys Ser Gly Ala Gly Lys
                     230                 235                      240

     Arg Arg


<210> 137
<211> 1571
<212> DNA
<213> Homo Sapien

<400> 137
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 gtgggtctga ggggaccaga agggtgagct acgttggctt tctggaaggg 100

 gaggctatat gcgtcaattc cccaaaacaa gttttgacat ttcccctgaa 150

 atgtcattct ctatctattc actgcaagtg cctgctgttc caggccttac 200

 ctgctgggca ctaacggcgg agccaggatg gggacagaat aaaggagcca 250

 cgacctgtgc caccaactcg cactcagact ctgaactcag acctgaaatc 300

 ttctcttcac gggaggcttg gcagtttttc ttactcctgt ggtctccaga 350

 tttcaggcct aagatgaaag cctctagtct tgccttcagc cttctctctg 400

 ctgcgtttta tctcctatgg actccttcca ctggactgaa gacactcaat 450

 ttgggaagct gtgtgatcgc cacaaacctt caggaaatac gaaatggatt 500

 ttctgagata cggggcagtg tgcaagccaa agatggaaac attgacatca 550

 gaatcttaag gaggactgag tctttgcaag acacaaagcc tgcgaatcga 600

 tgctgcctcc tgcgccattt gctaagactc tatctggaca gggtatttaa 650
 aaactaccag acccctgacc attatactct ccggaagatc agcagcctcg 700

 ccaattcctt tcttaccatc aagaaggacc tccggctctc tcatgcccac 750

 atgacatgcc attgtgggga ggaagcaatg aagaaataca gccagattct 800

 gagtcacttt gaaaagctgg aacctcaggc agcagttgtg aaggctttgg 850

 gggaactaga cattcttctg caatggatgg aggagacaga ataggaggaa 900

 agtgatgctg ctgctaagaa tattcgaggt caagagctcc agtcttcaat 950

 acctgcagag gaggcatgac cccaaaccac catctcttta ctgtactagt 1000

 cttgtgctgg tcacagtgta tcttatttat gcattacttg cttccttgca 1050
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tgattgtctt tatgcatccc caatcttaat tgagaccata cttgtataag 1100

attttttgtaa tatctttctg ctattggata tatttattag ttaatatatt 1150

tatttatttt ttgctattta atgtatttat ttttttactt ggacatgaaa 1200

ctttaaaaaa attcacagat tatatttata acctgactag agcaggtgat 1250

gtatttttat acagtaaaaa aaaaaaacct tgtaaattct agaagagtgg 1300

ctaggggggt tattcatttg tattcaacta aggacatatt tactcatgct 1350

gatgctctgt gagatatttg aaattgaacc aatgactact taggatgggt 1400

tgtggaataa gttttgatgt ggaattgcac atctacctta caattactga 1450

ccatccccag tagactcccc agtcccataa ttgtgtatct tccagccagg 1500

aatcctacac ggccagcatg tatttctaca aataaagttt tctttgcata 1550

ccaaaaaaaa aaaaaaaaaa a 1571
```

<210> 138
<211> 261
<212> PRT
<213> Homo Sapien

<400> 138

```
 Met Arg Gln Phe Pro Lys Thr Ser Phe Asp Ile Ser Pro Glu Met
  1               5                  10                  15

 Ser Phe Ser Ile Tyr Ser Leu Gln Val Pro Ala Val Pro Gly Leu
                 20                  25                  30

 Thr Cys Trp Ala Leu Thr Ala Glu Pro Gly Trp Gly Gln Asn Lys
                 35                  40                  45

 Gly Ala Thr Thr Cys Ala Thr Asn Ser His Ser Asp Ser Glu Leu
                 50                  55                  60

 Arg Pro Glu Ile Phe Ser Ser Arg Glu Ala Trp Gln Phe Phe Leu
                 65                  70                  75

 Leu Leu Trp Ser Pro Asp Phe Arg Pro Lys Met Lys Ala Ser Ser
                 80                  85                  90

 Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr Leu Leu Trp Thr
                 95                 100                 105

 Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser Cys Val Ile
                110                 115                 120

 Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu Ile Arg
                125                 130                 135

 Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile Leu
```

```
             140                          145                          150
 Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys
                 155                          160                          165

 Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe
                 170                          175                          180

 Lys Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser
                 185                          190                          195

 Ser Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu
                 200                          205                          210

 Ser His Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys
                 215                          220                          225

 Lys Tyr Ser Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln
                 230                          235                          240

 Ala Ala Val Val Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln
                 245                          250                          255

 Trp Met Glu Glu Thr Glu
                 260
```

<210> 139
<211> 2395
<212> DNA
<213> Homo Sapien

<400> 139

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 cctggagccg gaagcgcggc tgcagcaggg cgaggctcca ggtggggtcg  50

 gttccgcatc cagcctagcg tgtccacgat gcggctgggc tccgggactt  100

 tcgctacctg ttgcgtagcg atcgaggtgc tagggatcgc ggtcttcctt  150

 cggggattct ccccggctcc cgttcgttcc tctgccagag cggaacacgg  200

 agcggagccc ccagcgcccg aaccctcggc tggagccagt ctaactgga  250

 ccacgctgcc accacctctc ttcagtaaag ttgttattgt tctgatagat  300

 gccttgagag atgattttgt gtttgggtca aagggtgtga aatttatgcc  350

 ctacacaact taccttgtgg aaaaaggagc atctcacagt tttgtggctg  400

 aagcaaagcc acctacagtt actatgcctc gaatcaaggc attgatgacg  450

 gggagccttc ctggctttgt cgacgtcatc aggaacctca attctcctgc  500

 actgctggaa gacagtgtga taagacaagc aaaagcagct ggaaaaagaa  550

 tagtctttta tggagatgaa acctgggtta aattattccc aaagcatttt  600

 gtggaatatg atggaacaac ctcattttc gtgtcagatt acacagaggt  650
```

```
ggataataat  gtcacgaggc  atttggataa  agtattaaaa  agaggagatt  700

gggacatatt  aatcctccac  tacctggggc  tggaccacat  tggccacatt  750

tcagggccca  acagccccct  gattgggcag  aagctgagcg  agatggacag  800

cgtgctgatg  aagatccaca  cctcactgca  gtcgaaggag  agagagacgc  850

ctttacccaa  tttgctggtt  ctttgtggtg  accatggcat  gtctgaaaca  900

ggaagtcacg  gggcctcctc  caccgaggag  gtgaatacac  ctctgatttt  950

aatcagttct  gcgtttgaaa  ggaaacccgg  tgatatccga  catccaaagc  1000

acgtccaata  gacggatgtg  gctgcgacac  tggcgatagc  acttggctta  1050

ccgattccaa  aagacagtgt  agggagcctc  ctattcccag  ttgtggaagg  1100

aagaccaatg  agagagcagt  tgagattttt  acatttgaat  acagtgcagc  1150

ttagtaaact  gttgcaagag  aatgtgccgt  catatgaaaa  agatcctggg  1200

tttgagcagt  ttaaaatgtc  agaaagattg  catgggaact  ggatcagact  1250

gtacttggag  gaaaagcatt  cagaagtcct  attcaacctg  ggctccaagg  1300

ttctcaggca  gtacctggat  gctctgaaga  cgctgagctt  gtccctgagt  1350

gcacaagtgg  cccagttctc  accctgctcc  tgctcagcgt  cccacaggca  1400

ctgcacagaa  aggctgagct  ggaagtccca  ctgtcatctc  ctgggttttc  1450

tctgctcttt  tatttggtga  tcctggttct  ttcggccgtt  cacgtcattg  1500

tgtgcacctc  agctgaaagt  tcgtgctact  tctgtggcct  ctcgtggctg  1550

gcggcaggct  gcctttcgtt  taccagactc  tggttgaaca  cctggtgtgt  1600

gccaagtgct  ggcagtgccc  tggacagggg  gcctcaggga  aggacgtgga  1650

gcagccttat  cccaggcctc  tgggtgtccc  gacacaggtg  ttcacatctg  1700

tgctgtcagg  tcagatgcct  cagttcttgg  aaagctaggt  tcctgcgact  1750

gttaccaagg  tgattgtaaa  gagctggcgg  tcacagagga  acaagccccc  1800

cagctgaggg  ggtgtgtgaa  tcggacagcc  tcccagcaga  ggtgtgggag  1850

ctgcagctga  gggaagaaga  dacaatcggc  ctggacactc  aggagggtca  1900

aaaggagact  tggtcgcacc  actcatcctg  ccacccccag  aatgcatcct  1950

gcctcatcag  gtccagattt  ctttccaagg  cggacgtttt  ctgttggaat  2000

tcttagtcct  tggcctcgga  caccttcatt  cgttagctgg  ggagtggtgg  2050
```

```
      tgaggcagtg aagaagaggc ggatggtcac actcagatcc acagagccca 2100

      ggatcaaggg acccactgca gtggcagcag gactgttggg cccccacccc 2150

      aaccctgcac agccctcatc ccctcttggc ttgagccgtc agaggccctg 2200

      tgctgagtgt ctgaccgaga cactcacagc tttgtcatca gggcacaggc 2250

      ttcctcggag ccaggatgat ctgtgccacg cttgcacctc gggcccatct 2300

      gggctcatgc tctctctcct gctattgaat tagtacctag ctgcacacag 2350

      tatgtagtta ccaaaagaat aaacggcaat aattgagaaa aaaaa 2395
```

<210> 140
<211> 310
<212> PRT
<213> Homo Sapien

<400> 140
```
 Met Arg Leu Gly Ser Gly Thr Phe Ala Thr Cys Cys Val Ala Ile
  1               5                  10                  15

 Glu Val Leu Gly Ile Ala Val Phe Leu Arg Gly Phe Phe Pro Ala
                 20                  25                  30

 Pro Val Arg Ser Ser Ala Arg Ala Glu His Gly Ala Glu Pro Pro
                 35                  40                  45

 Ala Pro Glu Pro Ser Ala Gly Ala Ser Ser Asn Trp Thr Thr Leu
                 50                  55                  60

 Pro Pro Pro Leu Phe Ser Lys Val Val Ile Val Leu Ile Asp Ala
                 65                  70                  75

 Leu Arg Asp Asp Phe Val Phe Gly Ser Lys Gly Val Lys Phe Met
                 80                  85                  90

 Pro Tyr Thr Thr Tyr Leu Val Glu Lys Gly Ala Ser His Ser Phe
                 95                 100                 105

 Val Ala Glu Ala Lys Pro Pro Thr Val Thr Met Pro Arg Ile Lys
                110                 115                 120

 Ala Leu Met Thr Gly Ser Leu Pro Gly Phe Val Asp Val Ile Arg
                125                 130                 135

 Asn Leu Asn Ser Pro Ala Leu Leu Glu Asp Ser Val Ile Arg Gln
                140                 145                 150

 Ala Lys Ala Ala Gly Lys Arg Ile Val Phe Tyr Gly Asp Glu Thr
                155                 160                 165

 Trp Val Lys Leu Phe Pro Lys His Phe Val Glu Tyr Asp Gly Thr
                170                 175                 180

 Thr Ser Phe Phe Val Ser Asp Tyr Thr Glu Val Asp Asn Asn Val
```

```
                185                      190                      195
Thr Arg His Leu Asp Lys Val Leu Lys Arg Gly Asp Trp Asp Ile
                200                      205                      210

Leu Ile Leu His Tyr Leu Gly Leu Asp His Ile Gly His Ile Ser
                215                      220                      225

Gly Pro Asn Ser Pro Leu Ile Gly Gln Lys Leu Ser Glu Met Asp
                230                      235                      240

Ser Val Leu Met Lys Ile His Thr Ser Leu Gln Ser Lys Glu Arg
                245                      250                      255

Glu Thr Pro Leu Pro Asn Leu Leu Val Leu Cys Gly Asp His Gly
                260                      265                      270

Met Ser Glu Thr Gly Ser His Gly Ala Ser Ser Thr Glu Glu Val
                275                      280                      285

Asn Thr Pro Leu Ile Leu Ile Ser Ser Ala Phe Glu Arg Lys Pro
                290                      295                      300

Gly Asp Ile Arg His Pro Lys His Val Gln
                305                      310
```

<210> 141
<211> 754
<212> DNA
<213> Homo Sapien

<400> 141
```
 ggcacgaggc aagccttcca ggttatcgtg acgcaccttg aaagtctgag  50

 agctactgcc ctacagaaag ttactagtgc cctaaagctg gcgctggcac  100

 tgatgttact gctgctgttg gagtacaact tccctataga aaacaactgc  150

 cagcacctta agaccactca caccttcaga gtgaagaact taaacccgaa  200

 gaaattcagc attcatgacc aggatcacaa agtactggtc ctggactctg  250

 ggaatctcat agcagttcca gataaaaact acatacgccc agagatcttc  300

 tttgcattag cctcatcctt gagctcagcc tctgcggaga aggaagtcc  350

 gattctcctg ggggtctcta aaggggagtt ttgtctctac tgtgacaagg  400

 ataaaggaca aagtcatcca tcccttcagc tgaagaagga gaaactgatg  450

 aagctggctg cccaaaagga atcagcacgc cggcccttca tcttttatag  500

 ggctcaggtg ggctcctgga acatgctgga gtcggcggct cacccccggat  550

 ggttcatctg cacctcctgc aattgtaatg agcctgttgg ggtgacagat  600

 aaatttgaga acaggaaaca cattgaattt tcatttcaac cagtttgcaa  650
```

```
agctgaaatg agccccagtg aggtcagcga ttaggaaact gccccattga 700

acgccttcct cgctaatttg aactaattgt ataaaacac caaacctgct 750

cact 754
```

<210> 142
<211> 193
<212> PRT
<213> Homo Sapien

<400> 142

```
Met Leu Leu Leu Leu Leu Glu Tyr Asn Phe Pro Ile Glu Asn Asn
 1               5                  10                  15

Cys Gln His Leu Lys Thr Thr His Thr Phe Arg Val Lys Asn Leu
                20                  25                  30

Asn Pro Lys Lys Phe Ser Ile His Asp Gln Asp His Lys Val Leu
                35                  40                  45

Val Leu Asp Ser Gly Asn Leu Ile Ala Val Pro Asp Lys Asn Tyr
                50                  55                  60

Ile Arg Pro Glu Ile Phe Phe Ala Leu Ala Ser Ser Leu Ser Ser
                65                  70                  75

Ala Ser Ala Glu Lys Gly Ser Pro Ile Leu Leu Gly Val Ser Lys
                80                  85                  90

Gly Glu Phe Cys Leu Tyr Cys Asp Lys Asp Lys Gly Gln Ser His
                95                  100                 105

Pro Ser Leu Gln Leu Lys Lys Glu Lys Leu Met Lys Leu Ala Ala
                110                 115                 120

Gln Lys Glu Ser Ala Arg Arg Pro Phe Ile Phe Tyr Arg Ala Gln
                125                 130                 135

Val Gly Ser Trp Asn Met Leu Glu Ser Ala Ala His Pro Gly Trp
                140                 145                 150

Phe Ile Cys Thr Ser Cys Asn Cys Asn Glu Pro Val Gly Val Thr
                155                 160                 165

Asp Lys Phe Glu Asn Arg Lys His Ile Glu Phe Ser Phe Gln Pro
                170                 175                 180

Val Cys Lys Ala Glu Met Ser Pro Ser Glu Val Ser Asp
                185                 190
```

<210> 143
<211> 961
<212> DNA
<213> Homo Sapien

<400> 143

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ctagagagta tagggcagaa ggatggcaga tgagtgactc cacatccaga 50

gctgcctccc tttaatccag gatcctgtcc ttcctgtcct gtaggagtgc 100
ctgttgccag tgtggggtga gacaagtttg tcccacaggg ctgtctgagc 150

agataagatt aagggctggg tctgtgctca attaactcct gtgggcacgg 200

gggctgggaa gagcaaagtc agcggtgcct acagtcagca ccatgctggg 250

cctgccgtgg aagggaggtc tgtcctgggc gctgctgctg cttctcttag 300

gctcccagat cctgctgatc tatgcctggc atttccacga gcaaagggac 350

tgtgatgaac acaatgtcat ggctcgttac ctccctgcca cagtggagtt 400

tgctgtccac acattcaacc aacagagcaa ggactactat gcctacagac 450

tggggcacat cttgaattcc tggaaggagc aggtggagtc caagactgta 500

ttctcaatgg agctactgct ggggagaact aggtgtggga aatttgaaga 550

cgacattgac aactgccatt ccaagaaag cacagagctg aacaatactt 600

tcacctgctt cttcaccatc agcaccaggc cctggatgac tcagttcagc 650

ctcctgaaca agacctgctt ggagggattc cactgagtga aacccactca 700

caggcttgtc catgtgctgc tcccacattc cgtggacatc agcactactc 750

tcctgaggac tcttcagtgg ctgagcagct ttggacttgt ttgttatcct 800

attttgcatg tgtttgagat ctcagatcag tgttttagaa aatccacaca 850

tcttgagcct aatcatgtag tgtagatcat taaacatcag cattttaaga 900

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 950

aaaaaaaaaa a 961
```

<210> 144
<211> 147
<212> PRT
<213> Homo Sapien

<400> 144

```
Met Leu Gly Leu Pro Trp Lys Gly Gly Leu Ser Trp Ala Leu Leu
 1               5                  10                  15

Leu Leu Leu Leu Gly Ser Gln Ile Leu Leu Ile Tyr Ala Trp His
                20                  25                  30

Phe His Glu Gln Arg Asp Cys Asp Glu His Asn Val Met Ala Arg
                35                  40                  45

Tyr Leu Pro Ala Thr Val Glu Phe Ala Val His Thr Phe Asn Gln
                50                  55                  60
```

```
Gln Ser Lys Asp Tyr Tyr Ala Tyr Arg Leu Gly His Ile Leu Asn
                65                  70                      75


Ser Trp Lys Glu Gln Val Glu Ser Lys Thr Val Phe Ser Met Glu
                80                  85                      90


Leu Leu Leu Gly Arg Thr Arg Cys Gly Lys Phe Glu Asp Asp Ile
                95                 100                     105


Asp Asn Cys His Phe Gln Glu Ser Thr Glu Leu Asn Asn Thr Phe
               110                 115                     120


Thr Cys Phe Phe Thr Ile Ser Thr Arg Pro Trp Met Thr Gln Phe
               125                 130                     135


Ser Leu Leu Asn Lys Thr Cys Leu Glu Gly Phe His
               140                 145
```

<210> 145
<211> 1157
<212> DNA
<213> Homo Sapien

<400> 145

```
 ctgtgcagct cgaggctcca gaggcacact ccagagagag ccaaggttct 50

 gacgcgatga ggaagcacct gagctggtgg tggctggcca ctgtctgcat 100

 gctgctcttc agccacctct ctgcggtcca gacgaggggc atcaagcaca 150

 gaatcaagtg gaaccggaag gccctgccca gcactgccca gatcactgag 200

 gcccaggtgg ctgagaaccg cccgggagcc ttcatcaagc aaggccgcaa 250

 gctcgacatt gacttcggag ccgagggcaa caggtactac gaggccaact 300

 actggcagtt ccccgatggc atccactaca cggctgctc tgaggctaat 350

 gtgaccaagg aggcatttgt caccggctgc atcaatgcca cccaggcggc 400

 gaaccagggg gagttccaga gccagacaa caagctccac cagcaggtgc 450

 tctggcggct ggtccaggag ctctgctccc tcaagcattg cgagttttgg 500

 ttggagaggg gcgcaggact tcgggtcacc atgcaccagc cagtgctcct 550

 ctgccttctg gctttgatct ggctcatggt gaaataagct tgccaggagg 600

 ctggcagtac agagcgcagc agcgagcaaa tcctggcaag tgacccagct 650

 cttctccccc aaacccacgc gtgttctgaa ggtgcccagg agcggcgatg 700

 cactcgcact gcaaatgccg ctcccacgta tgcgccctgg tatgtgcctg 750

 cgttctgata gatgggggac tgtggcttct ccgtcactcc attctcagcc 800

 cctagcagag cgtctggcac actagattag tagtaaatgc ttgatgagaa 850
```

```
gaacacatca ggcactgcgc cacctgcttc acagtacttc ccaacaactc 900

ttagaggtag gtgtattccc gttttacaga taaggaaact gaggcccaga 950

gagctgaagt actgcaccca gcatcaccag ctagaaagtg gcagagccag 1000

gattcaaccc tggcttgtct aaccccaggt tttctgctct gtccaattcc 1050

agagctgtct ggtgatcact ttatgtctca cagggaccca catccaaaca 1100

tgtatctcta atgaaattgt gaaagctcca tgtttagaaa taaatgaaaa 1150

cacctga 1157
```

<210> 146
<211> 176
<212> PRT
<213> Homo Sapien

<400> 146

```
Met Arg Lys His Leu Ser Trp Trp Trp Leu Ala Thr Val Cys Met
 1               5                  10                  15

Leu Leu Phe Ser His Leu Ser Ala Val Gln Thr Arg Gly Ile Lys
                20                  25                  30

His Arg Ile Lys Trp Asn Arg Lys Ala Leu Pro Ser Thr Ala Gln
                35                  40                  45

Ile Thr Glu Ala Gln Val Ala Glu Asn Arg Pro Gly Ala Phe Ile
                50                  55                  60

Lys Gln Gly Arg Lys Leu Asp Ile Asp Phe Gly Ala Glu Gly Asn
                65                  70                  75

Arg Tyr Tyr Glu Ala Asn Tyr Trp Gln Phe Pro Asp Gly Ile His
                80                  85                  90

Tyr Asn Gly Cys Ser Glu Ala Asn Val Thr Lys Glu Ala Phe Val
                95                  100                 105

Thr Gly Cys Ile Asn Ala Thr Gln Ala Ala Asn Gln Gly Glu Phe
                110                 115                 120

Gln Lys Pro Asp Asn Lys Leu His Gln Gln Val Leu Trp Arg Leu
                125                 130                 135

Val Gln Glu Leu Cys Ser Leu Lys His Cys Glu Phe Trp Leu Glu
                140                 145                 150

Arg Gly Ala Gly Leu Arg Val Thr Met His Gln Pro Val Leu Leu
                155                 160                 165

Cys Leu Leu Ala Leu Ile Trp Leu Met Val Lys
                170                 175
```

<210> 147
<211> 333
<212> DNA
<213> Homo Sapien

<400> 147
gccttggcct cccaaagggc tgggattata ggcgtgacca ccatgtctgg 50

tccagagtct catttcctga tgatttatag actcaaagaa aactcatgtt 100

cagaagctct cttctcttct ggcctcctct ctgtcttctt tccctctttc 150

ttcttatttt aattagtagc atctactcag agtcatgcaa gctggaaatc 200

tttcattttg cttgtcagtg gggtaggtca ctgagtctta gttttattt 250

tttgaaattt caactttcag attcaggggg tacatgtgaa ggtttgtttt 300

atgagtatat tgcatgatgc tgaggtttgg ggt 333

<210> 148
<211> 73
<212> PRT
<213> Homo Sapien

<400> 148
Met Phe Arg Ser Ser Leu Leu Phe Trp Pro Pro Leu Cys Leu Leu
1   5   10   15

Ser Leu Phe Leu Leu Ile Leu Ile Ser Ser Ile Tyr Ser Glu Ser
                20   25   30

Cys Lys Leu Glu Ile Phe His Phe Ala Cys Gln Trp Gly Arg Ser
                35   40   45

Leu Ser Leu Ser Phe Tyr Phe Leu Lys Phe Gln Leu Ser Asp Ser
                50   55   60

Gly Gly Thr Cys Glu Gly Leu Phe Tyr Glu Tyr Ile Ala
                65   70

<210> 149
<211> 1893
<212> DNA
<213> Homo Sapien

<400> 149
gtctccgcgt cacaggaact tcagcaccca cagggcggac agcgctcccc 50

tctacctgga gacttgactc ccgcgcgccc caaccctgct tatcccttga 100

ccgtcgagtg tcagagatcc tgcagccgcc cagtcccggc ccctctcccg 150

ccccacaccc accctcctgg ctcttcctgt ttttactcct cctttcatt 200

cataacaaaa gctacagctc caggagccca gcgccgggct gtgacccaag 250

```
ccgagcgtgg aagaatgggg ttcctcggga ccggcacttg gattctggtg 300

ttagtgctcc cgattcaagc tttccccaaa cctggaggaa gccaagacaa 350

atctctacat aatagagaat taagtgcaga aagacctttg aatgaacaga 400

ttgctgaagc agaagaagac aagattaaaa aaacatatcc tccagaaaac 450

aagccaggtc agagcaacta ttcttttgtt gataacttga acctgctaaa 500

ggcaataaca gaaaaggaaa aaattgagaa agaaagacaa tctataagaa 550

gctccccact tgataataag ttgaatgtgg aagatgttga ttcaaccaag 600

aatcgaaaac tgatcgatga ttatgactct actaagagtg gattggatca 650
taaatttcaa gatgatccag atggtcttca tcaactagac gggactcctt 700

taaccgctga agacattgtc cataaaatcg ctgccaggat ttatgaagaa 750

aatgacagag ccgtgtttga caagattgtt tctaaactac ttaatctcgg 800

ccttatcaca gaaagccaag cacatacact ggaagatgaa gtagcagagg 850

ttttacaaaa attaatctca aaggaagcca acaattatga ggaggatccc 900

aataagccca caagctggac tgagaatcag gctggaaaaa taccagagaa 950

agtgactcca atggcagcaa ttcaagatgg tcttgctaag ggagaaaacg 1000

atgaaacagt atctaacaca ttaaccttga caaatggctt ggaaaggaga 1050

actaaaacct acagtgaaga caactttgag gaactccaat atttcccaaa 1100

tttctatgcg ctactgaaaa gtattgattc agaaaaagaa gcaaagaga 1150

aagaaacact gattactatc atgaaaacac tgattgactt tgtgaagatg 1200

atggtgaaat atggaacaat atctccagaa gaaggtgttt cctaccttga 1250

aaacttggat gaaatgattg ctcttcagac caaaaacaag ctagaaaaaa 1300

atgctactga caatataagc aagcttttcc cagcaccatc agagaagagt 1350

catgaagaaa cagacagtac caaggaagaa gcagctaaga tggaaaagga 1400

atatggaagc ttgaaggatt ccacaaaaga tgataactcc aacccaggag 1450

gaaagacaga tgaacccaaa ggaaaaacag aagcctattt ggaagccatc 1500

agaaaaaata ttgaatggtt gaagaaacat gacaaaaagg gaaataaaga 1550

agattatgac ctttcaaaga tgagagactt catcaataaa caagctgatg 1600

cttatgtgga gaaaggcatc cttgacaagg aagaagccga ggccatcaag 1650

cgcatttata gcagcctgta aaaatggcaa aagatccagg agtctttcaa 1700
```

```
ctgtttcaga aaacataata tagcttaaaa cacttctaat tctgtgatta 1750

aaattttttg acccaagggt tattagaaag tgctgaattt acagtagtta 1800

accttttaca agtggttaaa acatagcttt cttcccgtaa aaactatctg 1850

aaagtaaagt tgtatgtaag ctgaaaaaaa aaaaaaaaa aaa 1893
```

<210> 150
<211> 468
<212> PRT
<213> Homo Sapien

<400> 150

```
Met Gly Phe Leu Gly Thr Gly Thr Trp Ile Leu Val Leu Val Leu
 1               5                  10                  15

Pro Ile Gln Ala Phe Pro Lys Pro Gly Gly Ser Gln Asp Lys Ser
                20                  25                  30

Leu His Asn Arg Glu Leu Ser Ala Glu Arg Pro Leu Asn Glu Gln
                35                  40                  45

Ile Ala Glu Ala Glu Glu Asp Lys Ile Lys Lys Thr Tyr Pro Pro
                50                  55                  60

Glu Asn Lys Pro Gly Gln Ser Asn Tyr Ser Phe Val Asp Asn Leu
                65                  70                  75

Asn Leu Leu Lys Ala Ile Thr Glu Lys Glu Lys Ile Glu Lys Glu
                80                  85                  90

Arg Gln Ser Ile Arg Ser Ser Pro Leu Asp Asn Lys Leu Asn Val
                95                  100                 105

Glu Asp Val Asp Ser Thr Lys Asn Arg Lys Leu Ile Asp Asp Tyr
                110                 115                 120

Asp Ser Thr Lys Ser Gly Leu Asp His Lys Phe Gln Asp Asp Pro
                125                 130                 135

Asp Gly Leu His Gln Leu Asp Gly Thr Pro Leu Thr Ala Glu Asp
                140                 145                 150

Ile Val His Lys Ile Ala Ala Arg Ile Tyr Glu Glu Asn Asp Arg
                155                 160                 165

Ala Val Phe Asp Lys Ile Val Ser Lys Leu Leu Asn Leu Gly Leu
                170                 175                 180

Ile Thr Glu Ser Gln Ala His Thr Leu Glu Asp Glu Val Ala Glu
                185                 190                 195

Val Leu Gln Lys Leu Ile Ser Lys Glu Ala Asn Asn Tyr Glu Glu
                200                 205                 210

Asp Pro Asn Lys Pro Thr Ser Trp Thr Glu Asn Gln Ala Gly Lys
```

```
                 215                      220                      225

Ile Pro Glu Lys Val Thr Pro Met Ala Ala Ile Gln Asp Gly Leu
                 230                      235                      240

Ala Lys Gly Glu Asn Asp Glu Thr Val Ser Asn Thr Leu Thr Leu
                 245                      250                      255

Thr Asn Gly Leu Glu Arg Arg Thr Lys Thr Tyr Ser Glu Asp Asn
                 260                      265                      270

Phe Glu Glu Leu Gln Tyr Phe Pro Asn Phe Tyr Ala Leu Leu Lys
                 275                      280                      285

Ser Ile Asp Ser Glu Lys Glu Ala Lys Glu Lys Glu Thr Leu Ile
                 290                      295                      300

Thr Ile Met Lys Thr Leu Ile Asp Phe Val Lys Met Met Val Lys
                 305                      310                      315

Tyr Gly Thr Ile Ser Pro Glu Glu Gly Val Ser Tyr Leu Glu Asn
                 320                      325                      330

Leu Asp Glu Met Ile Ala Leu Gln Thr Lys Asn Lys Leu Glu Lys
                 335                      340                      345

Asn Ala Thr Asp Asn Ile Ser Lys Leu Phe Pro Ala Pro Ser Glu
                 350                      355                      360

Lys Ser His Glu Glu Thr Asp Ser Thr Lys Glu Glu Ala Ala Lys
                 365                      370                      375

Met Glu Lys Glu Tyr Gly Ser Leu Lys Asp Ser Thr Lys Asp Asp
                 380                      385                      390

Asn Ser Asn Pro Gly Gly Lys Thr Asp Glu Pro Lys Gly Lys Thr
                 395                      400                      405

Glu Ala Tyr Leu Glu Ala Ile Arg Lys Asn Ile Glu Trp Leu Lys
                 410                      415                      420

Lys His Asp Lys Lys Gly Asn Lys Glu Asp Tyr Asp Leu Ser Lys
                 425                      430                      435

Met Arg Asp Phe Ile Asn Lys Gln Ala Asp Ala Tyr Val Glu Lys
                 440                      445                      450

Gly Ile Leu Asp Lys Glu Glu Ala Glu Ala Ile Lys Arg Ile Tyr
                 455                      460                      465

Ser Ser Leu


<210> 151
<211> 2598
<212> DNA
<213> Homo Sapien
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<400> 151
cggctcgagg ctcccgccag gagaaaggaa cattctgagg ggagtctaca 50

ccctgtggag ctcaagatgg tcctgagtgg ggcgctgtgc ttccgaatga 100

aggactcggc attgaaggtg ctttatctgc ataataacca gcttctagct 150

ggagggctgc atgcagggaa ggtcattaaa ggtgaagaga tcagcgtggt 200

ccccaatcgg tggctggatg ccagcctgtc ccccgtcatc ctgggtgtcc 250

agggtggaag ccagtgcctg tcatgtgggg tggggcagga gccgactcta 300

acactagagc cagtgaacat catggagctc tatcttggtg ccaaggaatc 350

caagagcttc accttctacc ggcgggacat ggggctcacc tccagcttcg 400

agtcggctgc ctacccgggc tggttcctgt gcacggtgcc tgaagccgat 450

cagcctgtca gactcaccca gcttcccgag aatggtggct ggaatgcccc 500

catcacagac ttctacttcc agcagtgtga ctagggcaac gtgcccccca 550

gaactccctg ggcagagcca gctcgggtga ggggtgagtg gaggagaccc 600

atggcggaca atcactctct ctgctctcag gacccccacg tctgacttag 650

tgggcacctg accactttgt cttctggttc ccagtttgga taaattctga 700

gatttggagc tcagtccacg gtcctccccc actggatggt gctactgctg 750

tggaaccttg taaaaaccat gtggggtaaa ctgggaataa catgaaaaga 800

tttctgtggg ggtggggtgg gggagtggtg ggaatcattc ctgcttaatg 850

gtaactgaca agtgttaccc tgagccccgc aggccaaccc atccccagtt 900

gagccttata gggtcagtag ctctccacat gaagtcctgt cactcaccac 950

tgtgcaggag agggaggtgg tcatagagtc agggatctat ggcccttggc 1000

ccagccccac ccccttccct ttaatcctgc cactgtcata tgctaccttt 1050

cctatctctt ccctcatcat cttgttgtgg gcatgaggag gtggtgatgt 1100

cagaagaaat ggctcgagct cagaagataa aagataagta gggtatgctg 1150

atcctctttt aaaaacccaa gatacaatca aaatcccaga tgctggtctc 1200

tattcccatg aaaaagtgct catgacatat tgagaagacc tacttacaaa 1250

gtggcatata ttgcaattta ttttaattaa aagataccta tttatatatt 1300

tctttataga aaaaagtctg gaagagttta cttcaattgt agcaatgtca 1350

gggtggtggc agtataggtg atttttcttt taattctgtt aatttatctg 1400

```
tatttcctaa ttttctaca atgaagatga attccttgta taaaaataag 1450

aaaagaaatt aatcttgagg taagcagagc agacatcatc tctgattgtc 1500

ctcagcctcc acttccccag agtaaattca aattgaatcg agctctgctg 1550

ctctggttgg ttgtagtagt gatcaggaaa cagatctcag caaagccact 1600

gaggaggagg ctgtgctgag tttgtgtggc tggaatctct gggtaaggaa 1650

cttaaagaac aaaaatcatc tggtaattct ttcctagaag gatcacagcc 1700

cctgggattc caaggcattg gatccagtct ctaagaaggc tgctgtactg 1750

gttgaattgt gtccccctca aattcacatc cttcttggaa tctcagtctg 1800

tgagtttatt tggagataag gtctctgcag atgtagttag ttaagacaag 1850

gtcatgctgg atgaaggtag acctaaattc aatatgactg gtttccttgt 1900

atgaaaagga gaggacacag agacagagga gacgcgggga agactatgta 1950

aagatgaagg cagagatcgg agttttgcag ccacaagcta agaaacacca 2000

aggattgtgg caaccatcag aagcttggaa gaggcaaaga agaattcttc 2050

cctagaggct ttagagggat aacggctctg ctgaaacctt aatctcagac 2100

ttccagcctc ctgaacgaag aaagaataaa tttcggctgt tttaagccac 2150

caaggataat tggttacagc agctctagga aactaataca gctgctaaaa 2200

tgatccctgt ctcctcgtgt ttacattctg tgtgtgtccc ctcccacaat 2250

gtaccaaagt tgtctttgtg accaatagaa tatggcagaa gtgatggcat 2300

gccacttcca agattaggtt ataaaagaca ctgcagcttc tacttgagcc 2350

ctctctctct gccacccacc gcccccaatc tatcttggct cactcgctct 2400

gggggaagct agctgccatg ctatgagcag gcctataaag agacttacgt 2450

ggtaaaaaat gaagtctcct gcccacagcc acattagtga acctagaagc 2500

agagactctg tgagataatc gatgtttgtt gttttaagtt gctcagtttt 2550

ggtctaactt gttatgcagc aatagataaa taatatgcag agaaagag 2598
```

<210> 152
<211> 155
<212> PRT
<213> Homo Sapien

<400> 152
```
Met Val Leu Ser Gly Ala Leu Cys Phe Arg Met Lys Asp Ser Ala
 1               5                   10                  15
```

```
Leu Lys Val Leu Tyr Leu His Asn Asn Gln Leu Leu Ala Gly Gly
              20                  25                  30

Leu His Ala Gly Lys Val Ile Lys Gly Glu Glu Ile Ser Val Val
              35                  40                  45

Pro Asn Arg Trp Leu Asp Ala Ser Leu Ser Pro Val Ile Leu Gly
              50                  55                  60

Val Gln Gly Gly Ser Gln Cys Leu Ser Cys Gly Val Gly Gln Glu
              65                  70                  75

Pro Thr Leu Thr Leu Glu Pro Val Asn Ile Met Glu Leu Tyr Leu
              80                  85                  90

Gly Ala Lys Glu Ser Lys Ser Phe Thr Phe Tyr Arg Arg Asp Met
              95                  100                 105

Gly Leu Thr Ser Ser Phe Glu Ser Ala Ala Tyr Pro Gly Trp Phe
              110                 115                 120

Leu Cys Thr Val Pro Glu Ala Asp Gln Pro Val Arg Leu Thr Gln
              125                 130                 135

Leu Pro Glu Asn Gly Gly Trp Asn Ala Pro Ile Thr Asp Phe Tyr
              140                 145                 150

Phe Gln Gln Cys Asp
              155
<210> 153
<211> 1152
<212> DNA
<213> Homo Sapien

<400> 153
 cttcagaaca ggttctcctt ccccagtcac cagttgctcg agttagaatt 50

 gtctgcaatg gccgccctgc agaaatctgt gagctctttc cttatgggga 100

 ccctggccac cagctgcctc cttctcttgg ccctcttggt acaggaagga 150

 gcagctgcgc ccatcagctc ccactgcagg cttgacaagt ccaacttcca 200

 gcagccctat atcaccaacc gcaccttcat gctggctaag gaggctagct 250

 tggctgataa caacacagac gttcgtctca ttggggagaa actgttccac 300

 ggagtcagta tgagtgagcg ctgctatctg atgaagcagg tgctgaactt 350

 caccccttgaa gaagtgctgt ccctcaatc tgataggttc cagccttata 400

 tgcaggaggt ggtgcccttc ctggccaggc tcagcaacag gctaagcaca 450

 tgtcatattg aaggtgatga cctgcatatc cagaggaatg tgcaaaagct 500

 gaaggacaca gtgaaaaagc ttggagagag tggagagatc aaagcaattg 550
```

```
gagaactgga tttgctgttt atgtctctga gaaatgcctg catttgacca 600

gagcaaagct gaaaaatgaa taactaaccc cctttccctg ctagaaataa 650

caattagatg ccccaaagcg attttttta accaaaagga agatgggaag 700

ccaaactcca tcatgatggg tggattccaa atgaacccct gcgttagtta 750

caaaggaaac caatgccact tttgtttata agaccagaag gtagactttc 800

taagcataga tatttattga taacatttca ttgtaactgg tgttctatac 850

acagaaaaca atttattttt taaataattg tcttttttcca taaaaaagat 900

tactttccat tcctttaggg gaaaaaaccc ctaaatagct tcatgtttcc 950

ataatcagta ctttatattt ataaatgtat ttattattat tataagactg 1000

cattttattt atatcatttt attaatatgg atttatttat agaaacatca 1050

ttcgatattg ctacttgagt gtaaggctaa tattgatatt tatgacaata 1100

attatagagc tataacatgt ttatttgacc tcaataaaca cttggatatc 1150

cc 1152
```

```
<210> 154
<211> 179
<212> PRT
<213> Homo Sapien

<400> 154
 Met Ala Ala Leu Gln Lys Ser Val Ser Ser Phe Leu Met Gly Thr
  1               5                  10                  15

 Leu Ala Thr Ser Cys Leu Leu Leu Leu Ala Leu Leu Val Gln Gly
                 20                  25                  30

 Gly Ala Ala Ala Pro Ile Ser Ser His Cys Arg Leu Asp Lys Ser
                 35                  40                  45

 Asn Phe Gln Gln Pro Tyr Ile Thr Asn Arg Thr Phe Met Leu Ala
                 50                  55                  60

 Lys Glu Ala Ser Leu Ala Asp Asn Asn Thr Asp Val Arg Leu Ile
                 65                  70                  75

 Gly Glu Lys Leu Phe His Gly Val Ser Met Ser Glu Arg Cys Tyr
                 80                  85                  90

 Leu Met Lys Gln Val Leu Asn Phe Thr Leu Glu Glu Val Leu Phe
                 95                 100                 105

 Pro Gln Ser Asp Arg Phe Gln Pro Tyr Met Gln Glu Val Val Pro
                110                 115                 120
```

```
Phe Leu Ala Arg Leu Ser Asn Arg Leu Ser Thr Cys His Ile Glu
                125                 130                 135

Gly Asp Asp Leu His Ile Gln Arg Asn Val Gln Lys Leu Lys Asp
                140                 145                 150

Thr Val Lys Lys Leu Gly Glu Ser Gly Glu Ile Lys Ala Ile Gly
                155                 160                 165

Glu Leu Asp Leu Leu Phe Met Ser Leu Arg Asn Ala Cys Ile
                170                 175
```

<210> 155
<211> 1320
<212> DNA
<213> Homo Sapien

<400> 155

```
ggcttgctga aaataaaatc aggactccta acctgctcca gtcagcctgc  50

ttccacgagg cctgtcagtc agtgcccgac ttgtgactga gtgtgcagtg  100

cccagcatgt accaggtcag tgcagagggc tgcctgaggg ctgtgctgag  150

agggagagga gcagagatgc tgctgagggt ggagggaggc caagctgcca  200

ggtttggggc tggggggccaa gtggagtgag aaactgggat cccagggga   250

gggtgcagat gagggagcga cccagattag gtgaggacag ttctctcatt  300

agccttttcc tacaggtggt tgcattcttg gcaatggtca tgggaaccca   350

cacctacagc cactggccca gctgctgccc cagcaaaggg caggacacct   400

ctgaggagct gctgaggtgg agcactgtgc ctgtgcctcc cctagagcct  450

gctaggccca accgccaccc agagtcctgt agggccagtg aagatggacc  500

cctcaacagc agggccatct cccctggag atatgagttg acagagact   550

tgaaccggct cccccaggac ctgtaccacg cccgttgcct gtgcccgcac   600

tgcgtcagcc tacagacagg ctcccacatg accccgggg gcaactcgga  650

gctgctctac cacaaccaga ctgtcttcta caggcggcca tgccatggcg  700

agaagggcac ccacaagggc tactgcctgg agcgcaggct gtaccgtgtt  750

tccttagctt gtgtgtgtgt gcggccccgt gtgatgggct agccggacct  800

gctggaggct ggtcccttt tgggaaacct ggagccaggt gtacaaccac  850

ttgccatgaa gggccaggat gcccagatgc ttggcccctg tgaagtgctg  900

tctggagcag caggatcccg ggacaggatg ggggctttg gggaaaacct  950

gcacttctgc acattttgaa aagagcagct gctgcttagg ccgccggaa  1000
```

```
gctggtgtcc tgtcattttc tctcaggaaa ggttttcaaa gttctgccca 1050

tttctggagg ccaccactcc tgtctcttcc tcttttccca tcccctgcta 1100

ccctggccca gcacaggcac tttctagata tttccccctt gctggagaag 1150

aaagagcccc tggttttatt tgtttgttta ctcatcactc agtgagcatc 1200

tactttgggt gcattctagt gtagttacta gtcttttgac atggatgatt 1250

ctgaggagga agctgttatt gaatgtatag agatttatcc aaataaatat 1300

ctttatttaa aaatgaaaaa 1320
```

<210> 156
<211> 177
<212> PRT
<213> Homo Sapien

<400> 156

```
Met Arg Glu Arg Pro Arg Leu Gly Glu Asp Ser Ser Leu Ile Ser
 1               5                  10                  15

Leu Phe Leu Gln Val Val Ala Phe Leu Ala Met Val Met Gly Thr
              20                  25                  30

His Thr Tyr Ser His Trp Pro Ser Cys Cys Pro Ser Lys Gly Gln
              35                  40                  45

Asp Thr Ser Glu Glu Leu Leu Arg Trp Ser Thr Val Pro Val Pro
              50                  55                  60

Pro Leu Glu Pro Ala Arg Pro Asn Arg His Pro Glu Ser Cys Arg
              65                  70                  75

Ala Ser Glu Asp Gly Pro Leu Asn Ser Arg Ala Ile Ser Pro Trp
              80                  85                  90

Arg Tyr Glu Leu Asp Arg Asp Leu Asn Arg Leu Pro Gln Asp Leu
              95                  100                 105

Tyr His Ala Arg Cys Leu Cys Pro His Cys Val Ser Leu Gln Thr
              110                 115                 120

Gly Ser His Met Asp Pro Arg Gly Asn Ser Glu Leu Leu Tyr His
              125                 130                 135

Asn Gln Thr Val Phe Tyr Arg Arg Pro Cys His Gly Glu Lys Gly
              140                 145                 150

Thr His Lys Gly Tyr Cys Leu Glu Arg Arg Leu Tyr Arg Val Ser
              155                 160                 165

Leu Ala Cys Val Cys Val Arg Pro Arg Val Met Gly
              170                 175
```

<210> 157
<211> 1515
<212> DNA
<213> Homo Sapien

<400> 157
ccggcgatgt cgctcgtgct gctaagcctg gccgcgctgt gcaggagcgc 50

cgtaccccga gagccgaccg ttcaatgtgg ctctgaaact gggccatctc 100

cagagtggat gctacaacat gatctaatcc ccggagactt gagggacctc 150

cgagtagaac ctgttacaac tagtgttgca acaggggact attcaatttt 200

gatgaatgta agctgggtac tccgggcaga tgccagcatc cgcttgttga 250

aggccaccaa gatttgtgtg acgggcaaaa gcaacttcca gtcctacagc 300

tgtgtgaggt gcaattacac agaggccttc cagactcaga ccagaccctc 350

tggtggtaaa tggacatttt cctacatcgg cttccctgta gagctgaaca 400

cagtctattt cattggggcc cataatattc ctaatgcaaa tatgaatgaa 450

gatggccctt ccatgtctgt gaatttcacc tcaccaggct gcctagacca 500

cataatgaaa tataaaaaaa agtgtgtcaa ggccggaagc ctgtgggatc 550

cgaacatcac tgcttgtaag aagaatgagg agacagtaga agtgaacttc 600

acaaccactc ccctgggaaa cagatacatg gctcttatcc aacacagcac 650

tatcatcggg ttttctcagg tgtttgagcc acaccagaag aaacaaacgc 700

gagcttcagt ggtgattcca gtgactgggg atagtgaagg tgctacggtg 750

cagctgactc catattttcc tacttgtggc agcgactgca tccgacataa 800

aggaacagtt gtgctctgcc cacaaacagg cgtccctttc cctctggata 850

acaacaaaag caagccggga ggctggctgc ctctcctcct gctgtctctg 900

ctggtggcca catgggtgct ggtggcaggg atctatctaa tgtggaggca 950

cgaaaggatc aagaagactt cctttctac caccacacta ctgcccccca 1000

ttaaggttct tgtggtttac ccatctgaaa tatgtttcca tcacacaatt 1050

tgttacttca ctgaatttct tcaaaaccat tgcagaagtg aggtcatcct 1100

tgaaaagtgg cagaaaaga aaatagcaga gatgggtcca gtgcagtggc 1150

ttgccactca aaagaaggca gcagacaaag tcgtcttcct tctttccaat 1200

gacgtcaaca gtgtgtgcga tggtacctgt ggcaagagcg agggcagtcc 1250

cagtgagaac tctcaagacc tcttccccct tgcctttaac cttttctgca 1300

```
gtgatctaag aagccagatt catctgcaca aatacgtggt ggtctacttt 1350

agagagattg atacaaaaga cgattacaat gctctcagtg tctgccccaa 1400

gtaccacctc atgaaggatg ccactgcttt ctgtgcagaa cttctccatg 1450

tcaagcagca ggtgtcagca ggaaaaagat cacaagcctg ccacgatggc 1500

tgctgctcct tgtag 1515
```

<210> 158
<211> 502
<212> PRT
<213> Homo Sapien

<400> 158

```
Met Ser Leu Val Leu Leu Ser Leu Ala Ala Leu Cys Arg Ser Ala
 1               5                  10                  15

Val Pro Arg Glu Pro Thr Val Gln Cys Gly Ser Glu Thr Gly Pro
                20                  25                  30

Ser Pro Glu Trp Met Leu Gln His Asp Leu Ile Pro Gly Asp Leu
                35                  40                  45

Arg Asp Leu Arg Val Glu Pro Val Thr Thr Ser Val Ala Thr Gly
                50                  55                  60

Asp Tyr Ser Ile Leu Met Asn Val Ser Trp Val Leu Arg Ala Asp
                65                  70                  75

Ala Ser Ile Arg Leu Leu Lys Ala Thr Lys Ile Cys Val Thr Gly
                80                  85                  90

Lys Ser Asn Phe Gln Ser Tyr Ser Cys Val Arg Cys Asn Tyr Thr
                95                  100                 105

Glu Ala Phe Gln Thr Gln Thr Arg Pro Ser Gly Gly Lys Trp Thr
                110                 115                 120

Phe Ser Tyr Ile Gly Phe Pro Val Glu Leu Asn Thr Val Tyr Phe
                125                 130                 135

Ile Gly Ala His Asn Ile Pro Asn Ala Asn Met Asn Glu Asp Gly
                140                 145                 150

Pro Ser Met Ser Val Asn Phe Thr Ser Pro Gly Cys Leu Asp His
                155                 160                 165

Ile Met Lys Tyr Lys Lys Lys Cys Val Lys Ala Gly Ser Leu Trp
                170                 175                 180

Asp Pro Asn Ile Thr Ala Cys Lys Lys Asn Glu Glu Thr Val Glu
                185                 190                 195

Val Asn Phe Thr Thr Thr Pro Leu Gly Asn Arg Tyr Met Ala Leu
```

```
                200                     205                    210

Ile Gln His Ser Thr Ile Ile Gly Phe Ser Gln Val Phe Glu Pro
            215                 220                    225

His Gln Lys Lys Gln Thr Arg Ala Ser Val Val Ile Pro Val Thr
            230                 235                    240

Gly Asp Ser Glu Gly Ala Thr Val Gln Leu Thr Pro Tyr Phe Pro
            245                 250                    255

Thr Cys Gly Ser Asp Cys Ile Arg His Lys Gly Thr Val Val Leu
            260                 265                    270

Cys Pro Gln Thr Gly Val Pro Phe Pro Leu Asp Asn Asn Lys Ser
            275                 280                    285

Lys Pro Gly Gly Trp Leu Pro Leu Leu Leu Leu Ser Leu Leu Val
            290                 295                    300

Ala Thr Trp Val Leu Val Ala Gly Ile Tyr Leu Met Trp Arg His
            305                 310                    315

Glu Arg Ile Lys Lys Thr Ser Phe Ser Thr Thr Thr Leu Leu Pro
            320                 325                    330

Pro Ile Lys Val Leu Val Val Tyr Pro Ser Glu Ile Cys Phe His
            335                 340                    345

His Thr Ile Cys Tyr Phe Thr Glu Phe Leu Gln Asn His Cys Arg
            350                 355                    360

Ser Glu Val Ile Leu Glu Lys Trp Gln Lys Lys Ile Ala Glu
            365                 370                    375

Met Gly Pro Val Gln Trp Leu Ala Thr Gln Lys Lys Ala Ala Asp
            380                 385                    390

Lys Val Val Phe Leu Leu Ser Asn Asp Val Asn Ser Val Cys Asp
            395                 400                    405

Gly Thr Cys Gly Lys Ser Glu Gly Ser Pro Ser Glu Asn Ser Gln
            410                 415                    420

Asp Leu Phe Pro Leu Ala Phe Asn Leu Phe Cys Ser Asp Leu Arg
            425                 430                    435

Ser Gln Ile His Leu His Lys Tyr Val Val Val Tyr Phe Arg Glu
            440                 445                    450

Ile Asp Thr Lys Asp Asp Tyr Asn Ala Leu Ser Val Cys Pro Lys
            455                 460                    465

Tyr His Leu Met Lys Asp Ala Thr Ala Phe Cys Ala Glu Leu Leu
            470                 475                    480

His Val Lys Gln Gln Val Ser Ala Gly Lys Arg Ser Gln Ala Cys
```

```
                     485                 490                 495
    His Asp Gly Cys Cys Ser Leu
                     500


<210> 159
<211> 535
<212> DNA
<213> Homo Sapien

<400> 159
 agccaccagc gcaacatgac agtgaagacc ctgcatggcc cagccatggt 50

 caagtacttg ctgctgtcga tattggggct tgcctttctg agtgaggcgg 100

 cagctcggaa aatccccaaa gtaggacata ctttttttcca aaagcctgag 150

 agttgcccgc ctgtgccagg aggtagtatg aagcttgaca ttggcatcat 200

 caatgaaaac cagcgcgttt ccatgtcacg taacatcgag agccgctcca 250

 cctcccccctg gaattacact gtcacttggg accccaaccg gtacccctcg 300

 gaagttgtac aggcccagtg taggaacttg ggctgcatca atgctcaagg 350

 aaaggaagac atctccatga attccgttcc catccagcaa gagaccctgg 400

 tcgtccggag gaagcaccaa ggctgctctg tttctttcca gttggagaag 450

 gtgctggtga ctgttggctg cacctgcgtc accctgtca tccaccatgt 500

 gcagtaagag gtgcatatcc actcagctga agaag 535

<210> 160
<211> 163
<212> PRT
<213> Homo Sapien

<400> 160
 Met Thr Val Lys Thr Leu His Gly Pro Ala Met Val Lys Tyr Leu
  1               5                  10                  15

 Leu Leu Ser Ile Leu Gly Leu Ala Phe Leu Ser Glu Ala Ala Ala
                 20                  25                  30

 Arg Lys Ile Pro Lys Val Gly His Thr Phe Phe Gln Lys Pro Glu
                 35                  40                  45

 Ser Cys Pro Pro Val Pro Gly Gly Ser Met Lys Leu Asp Ile Gly
                 50                  55                  60

 Ile Ile Asn Glu Asn Gln Arg Val Ser Met Ser Arg Asn Ile Glu
                 65                  70                  75

 Ser Arg Ser Thr Ser Pro Trp Asn Tyr Thr Val Thr Trp Asp Pro
                 80                  85                  90
```

```
Asn Arg Tyr Pro Ser Glu Val Val Gln Ala Gln Cys Arg Asn Leu
                95              100              105

Gly Cys Ile Asn Ala Gln Gly Lys Glu Asp Ile Ser Met Asn Ser
            110              115              120

Val Pro Ile Gln Gln Glu Thr Leu Val Val Arg Arg Lys His Gln
            125              130              135

Gly Cys Ser Val Ser Phe Gln Leu Glu Lys Val Leu Val Thr Val
            140              145              150

Gly Cys Thr Cys Val Thr Pro Val Ile His His Val Gln
            155              160
```

<210> 161
<211> 2380
<212> DNA
<213> Homo Sapien

<400> 161
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acactggcca aacaaaaacg aaagcactcc gtgctggaag taggaggaga 50

gtcaggactc ccaggacaga gagtgcacaa actacccagc acagccccct 100

ccgcccctc tggaggctga agagggattc cagcccctgc cacccacaga 150

cacgggctga ctggggtgtc tgcccccctt ggggggggc agcacaggc 200

ctcaggcctg ggtgccacct ggcacctaga agatgcctgt gccctggttc 250

ttgctgtcct tggcactggg ccgaagccca gtggtccttt ctctggagag 300

gcttgtgggg cctcaggacg ctacccactg ctctccgggc ctctcctgcc 350

gcctctggga cagtgacata ctctgcctgc ctggggacat cgtgcctgct 400

ccgggccccg tgctggcgcc tacgcacctg cagacagagc tggtgctgag 450

gtgccagaag gagaccgact gtgacctctg tctgcgtgtg gctgtccact 500

tggccgtgca tgggcactgg gaagagcctg aagatgagga aaagtttgga 550

ggagcagctg actcagggt ggaggagcct aggaatgcct ctctccaggc 600

ccaagtcgtg ctctccttcc aggcctaccc tactgcccgc tgcgtcctgc 650

tggaggtgca agtgcctgct gcccttgtgc agtttggtca gtctgtgggc 700

tctgtggtat atgactgctt cgaggctgcc ctaggagtg aggtacgaat 750

ctggtcctat actcagccca ggtacgagaa ggaactcaac cacacacagc 800

agctgcctgc cctgccctgg ctcaacgtgt cagcagatgg tgacaacgtg 850
catctggttc tgaatgtctc tgaggagcag cacttcggcc tctccctgta 900

ctggaatcag gtccagggcc ccccaaaacc ccggtggcac aaaaacctga 950
```

```
ctggaccgca gatcattacc ttgaaccaca cagacctggt tccctgcctc 1000

tgtattcagg tgtggcctct ggaacctgac tccgttagga cgaacatctg 1050

ccccttcagg gaggaccccc gcgcacacca gaacctctgg caagccgccc 1100

gactgcgact gctgaccctg cagagctggc tgctggacgc accgtgctcg 1150

ctgcccgcag aagcggcact gtgctggcgg gctccgggtg gggacccctg 1200

ccagccactg gtcccaccgc tttcctggga gaacgtcact gtggacaagg 1250

ttctcgagtt cccattgctg aaaggccacc ctaacctctg tgttcaggtg 1300

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ggggcctctc aaagacgatg tgctactgtt ggagacacga ggcccccagg 1400

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agcaaagcct ccacgagggc agctcgcctt ggagagtact tactacaaga 1500

cctgcagtca ggccagtgtc tgcagctatg ggacgatgac ttgggagcgc 1550

tatgggcctg ccccatggac aaatacatcc acaagcgctg ggccctcgtg 1600

tggctggcct gcctactctt tgccgctgcg ctttccctca tcctccttct 1650

caaaaaggat cacgcgaaag ggtggctgag gctcttgaaa caggacgtcc 1700

gctcgggggc ggccgccagg ggccgcgcgg ctctgctcct ctactcagcc 1750

gatgactcgg gtttcgagcg cctggtgggc gccctggcgt cggccctgtg 1800

ccagctgccg ctgcgcgtgg ccgtagacct gtggagccgt cgtgaactga 1850

gcgcgcaggg gcccgtggct tggtttcacg cgcagcggcg ccagaccctg 1900

caggagggcg gcgtggtggt cttgctcttc tctcccggtg cggtggcgct 1950

gtgcagcgag tggctacagg atggggtgtc cgggcccggg gcgcacggcc 2000

cgcacgacgc cttccgcgcc tcgctcagct gcgtgctgcc cgacttcttg 2050

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ccgcgttccg ggcggctcca agagagagcg gagcaagtgt cccgggccct 2250

tcagccagcc ctggatagct acttccatcc cccgggggact cccgcgccgg 2300

gacgcggggt gggaccaggg gcgggacctg gggcggggga cgggacttaa 2350
```

```
     ataaaggcag acgctgtttt tctaaaaaaa 2380

<210> 162
<211> 705
<212> PRT
<213> Homo Sapien

<400> 162
 Met Pro Val Pro Trp Phe Leu Leu Ser Leu Ala Leu Gly Arg Ser
  1               5                  10                  15

 Pro Val Val Leu Ser Leu Glu Arg Leu Val Gly Pro Gln Asp Ala
                 20                  25                  30

 Thr His Cys Ser Pro Gly Leu Ser Cys Arg Leu Trp Asp Ser Asp
                 35                  40                  45

 Ile Leu Cys Leu Pro Gly Asp Ile Val Pro Ala Pro Gly Pro Val
                 50                  55                  60

 Leu Ala Pro Thr His Leu Gln Thr Glu Leu Val Leu Arg Cys Gln
                 65                  70                  75

 Lys Glu Thr Asp Cys Asp Leu Cys Leu Arg Val Ala Val His Leu
                 80                  85                  90

 Ala Val His Gly His Trp Glu Glu Pro Glu Asp Glu Glu Lys Phe
                 95                 100                 105

 Gly Gly Ala Ala Asp Ser Gly Val Glu Glu Pro Arg Asn Ala Ser
                110                 115                 120

 Leu Gln Ala Gln Val Val Leu Ser Phe Gln Ala Tyr Pro Thr Ala
                125                 130                 135

 Arg Cys Val Leu Leu Glu Val Gln Val Pro Ala Ala Leu Val Gln
                140                 145                 150

 Phe Gly Gln Ser Val Gly Ser Val Val Tyr Asp Cys Phe Glu Ala
                155                 160                 165

 Ala Leu Gly Ser Glu Val Arg Ile Trp Ser Tyr Thr Gln Pro Arg
                170                 175                 180

 Tyr Glu Lys Glu Leu Asn His Thr Gln Gln Leu Pro Ala Leu Pro
                185                 190                 195

 Trp Leu Asn Val Ser Ala Asp Gly Asp Asn Val His Leu Val Leu
                200                 205                 210

 Asn Val Ser Glu Glu Gln His Phe Gly Leu Ser Leu Tyr Trp Asn
                215                 220                 225

 Gln Val Gln Gly Pro Pro Lys Pro Arg Trp His Lys Asn Leu Thr
                230                 235                 240

 Gly Pro Gln Ile Ile Thr Leu Asn His Thr Asp Leu Val Pro Cys
```

Leu Cys Ile Gln Val Trp Pro Leu Glu Pro Asp Ser Val Arg Thr
            260   265   270

Asn Ile Cys Pro Phe Arg Glu Asp Pro Arg Ala His Gln Asn Leu
            275   280   285

Trp Gln Ala Ala Arg Leu Arg Leu Leu Thr Leu Gln Ser Trp Leu
            290   295   300

Leu Asp Ala Pro Cys Ser Leu Pro Ala Glu Ala Ala Leu Cys Trp
            305   310   315

Arg Ala Pro Gly Gly Asp Pro Cys Gln Pro Leu Val Pro Pro Leu
            320   325   330

Ser Trp Glu Asn Val Thr Val Asp Lys Val Leu Glu Phe Pro Leu
            335   340   345

Leu Lys Gly His Pro Asn Leu Cys Val Gln Val Asn Ser Ser Glu
            350   355   360

Lys Leu Gln Leu Gln Glu Cys Leu Trp Ala Asp Ser Leu Gly Pro
            365   370   375

Leu Lys Asp Asp Val Leu Leu Leu Glu Thr Arg Gly Pro Gln Asp
            380   385   390

Asn Arg Ser Leu Cys Ala Leu Glu Pro Ser Gly Cys Thr Ser Leu
            395   400   405

Pro Ser Lys Ala Ser Thr Arg Ala Ala Arg Leu Gly Glu Tyr Leu
            410   415   420

Leu Gln Asp Leu Gln Ser Gly Gln Cys Leu Gln Leu Trp Asp Asp
            425   430   435

Asp Leu Gly Ala Leu Trp Ala Cys Pro Met Asp Lys Tyr Ile His
            440   445   450

Lys Arg Trp Ala Leu Val Trp Leu Ala Cys Leu Leu Phe Ala Ala
            455   460   465

Ala Leu Ser Leu Ile Leu Leu Leu Lys Lys Asp His Ala Lys Gly
            470   475   480

Trp Leu Arg Leu Leu Lys Gln Asp Val Arg Ser Gly Ala Ala Ala
            485   490   495

Arg Gly Arg Ala Ala Leu Leu Leu Tyr Ser Ala Asp Asp Ser Gly
            500   505   510

Phe Glu Arg Leu Val Gly Ala Leu Ala Ser Ala Leu Cys Gln Leu
            515   520   525

Pro Leu Arg Val Ala Val Asp Leu Trp Ser Arg Arg Glu Leu Ser

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                  530                        535                        540
    Ala Gln Gly Pro Val Ala Trp Phe His Ala Gln Arg Arg Gln Thr
                      545                        550                        555

    Leu Gln Glu Gly Gly Val Val Val Leu Leu Phe Ser Pro Gly Ala
                      560                        565                        570

    Val Ala Leu Cys Ser Glu Trp Leu Gln Asp Gly Val Ser Gly Pro
                      575                        580                        585

    Gly Ala His Gly Pro His Asp Ala Phe Arg Ala Ser Leu Ser Cys
                      590                        595                        600

    Val Leu Pro Asp Phe Leu Gln Gly Arg Ala Pro Gly Ser Tyr Val
                      605                        610                        615

    Gly Ala Cys Phe Asp Arg Leu Leu His Pro Asp Ala Val Pro Ala
                      620                        625                        630

    Leu Phe Arg Thr Val Pro Val Phe Thr Leu Pro Ser Gln Leu Pro
                      635                        640                        645

    Asp Phe Leu Gly Ala Leu Gln Gln Pro Arg Ala Pro Arg Ser Gly
                      650                        655                        660

    Arg Leu Gln Glu Arg Ala Glu Gln Val Ser Arg Ala Leu Gln Pro
                      665                        670                        675

    Ala Leu Asp Ser Tyr Phe His Pro Pro Gly Thr Pro Ala Pro Gly
                      680                        685                        690

    Arg Gly Val Gly Pro Gly Ala Gly Pro Gly Ala Gly Asp Gly Thr
                      695                        700                        705

<210> 163
<211> 2478
<212> DNA
<213> Homo Sapien

<400> 163
 gtcagtgcgg gaggccggtc agccaccaag atgactgaca ggttcagctc 50

 tctgcagcac actaccctca gccacctga tgtgacctgt atctccaaag 100

 tgagatcgat tcagatgatt gttcatccta cccccacgcc aatccgtgca 150

 ggcgatggcc accggctaac cctggaagac atcttccatg acctgttcta 200

 ccacttagag ctccaggtca accgcaccta ccaaatgcac cttggaggga 250

 agcagagaga atatgagttc ttcggcctga cccctgacac agagttcctt 300

 ggcaccatca tgatttgcgt tcccacctgg gccaaggaga gtgcccccta 350

 catgtgccga gtgaagacac tgccagaccg gacatggacc tactccttct 400
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ccggagcctt cctgttctcc atgggcttcc tcgtcgcagt actctgctac 450

ctgagctaca gatatgtcac caagccgcct gcacctccca actccctgaa 500

cgtccagcga gtcctgactt tccagccgct gcgcttcatc caggagcacg 550

tcctgatccc tgtctttgac ctcagcggcc ccagcagtct ggcccagcct 600

gtccagtact cccagatcag ggtgtctgga cccagggagc ccgcaggagc 650
tccacagcgg catagcctgt ccgagatcac ctacttaggg cagccagaca 700

tctccatcct ccagccctcc aacgtgccac ctccccagat cctctcccca 750

ctgtcctatg ccccaaacgc tgcccctgag gtcgggcccc catcctatgc 800

acctcaggtg accccccgaag ctcaattccc attctacgcc ccacaggcca 850

tctctaaggt ccagccttcc tcctatgccc ctcaagccac tccggacagc 900

tggcctccct cctatggggt atgcatggaa ggttctggca aagactcccc 950

cactgggaca ctttctagtc ctaaacacct taggcctaaa ggtcagcttc 1000

agaaagagcc accagctgga agctgcatgt taggtggcct ttctctgcag 1050

gaggtgacct ccttggctat ggaggaatcc caagaagcaa aatcattgca 1100

ccagcccctg gggatttgca cagacagaac atctgaccca aatgtgctac 1150

acagtgggga ggaagggaca ccacagtacc taaagggcca gctccccctc 1200

ctctcctcag tccagatcga gggccacccc atgtccctcc ctttgcaacc 1250

tccttccggt ccatgttccc cctcggacca aggtccaagt ccctggggcc 1300

tgctggagtc ccttgtgtgt cccaaggatg aagccaagag cccagcccct 1350

gagacctcag acctggagca gcccacagaa ctggattctc ttttcagagg 1400

cctggccctg actgtgcagt gggagtcctg aggggaatgg gaaaggcttg 1450

gtgcttcctc cctgtcccta cccagtgtca catccttggc tgtcaatccc 1500

atgcctgccc atgccacaca ctctgcgatc tggcctcaga cgggtgccct 1550

tgagagaagc agagggagtg gcatgcaggg cccctgccat gggtgcgctc 1600

ctcaccggaa caaagcagca tgataaggac tgcagcgggg gagctctggg 1650

gagcagcttg tgtagacaag cgcgtgctcg ctgagccctg caaggcagaa 1700

atgacagtgc aaggaggaaa tgcagggaaa ctcccgaggt ccagagcccc 1750

acctcctaac accatggatt caaagtgctc agggaatttg cctctccttg 1800

ccccattcct ggccagtttc acaatctagc tcgacagagc atgaggcccc 1850
```

```
tgcctcttct gtcattgttc aaaggtggga agagagcctg gaaaagaacc 1900

aggcctggaa aagaaccaga aggaggctgg gcagaaccag aacaacctgc 1950

acttctgcca aggccagggc cagcaggacg gcaggactct agggaggggt 2000

gtggcctgca gctcattccc agccagggca actgcctgac gttgcacgat 2050

ttcagcttca ttcctctgat agaacaaagc gaaatgcagg tccaccaggg 2100

agggagacac acaagccttt tctgcaggca ggagtttcag accctatcct 2150

gagaatgggg tttgaaagga aggtgagggc tgtggcccct ggacgggtac 2200

aataacacac tgtactgatg tcacaacttt gcaagctctg ccttgggttc 2250

agcccatctg ggctcaaatt ccagcctcac cactcacaag ctgtgtgact 2300

tcaaacaaat gaaatcagtg cccagaacct cggtttcctc atctgtaatg 2350

tggggatcat aacacctacc tcatggagtt gtggtgaaga tgaaatgaag 2400

tcatgtcttt aaagtgctta atagtgcctg gtacatgggc agtgcccaat 2450

aaacggtagc tatttaaaaa aaaaaaaa 2478
```

<210> 164
<211> 574
<212> PRT
<213> Homo Sapien

<400> 164
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Met Arg Thr Leu Leu Thr Ile Leu Thr Val Gly Ser Leu Ala Ala
 1               5                  10                  15

His Ala Pro Glu Asp Pro Ser Asp Leu Leu Gln His Val Lys Phe
                20                  25                  30

Gln Ser Ser Asn Phe Glu Asn Ile Leu Thr Trp Asp Ser Gly Pro
                35                  40                  45

Glu Gly Thr Pro Asp Thr Val Tyr Ser Ile Glu Tyr Lys Thr Tyr
                50                  55                  60

Gly Glu Arg Asp Trp Val Ala Lys Lys Gly Cys Gln Arg Ile Thr
                65                  70                  75

Arg Lys Ser Cys Asn Leu Thr Val Glu Thr Gly Asn Leu Thr Glu
                80                  85                  90

Leu Tyr Tyr Ala Arg Val Thr Ala Val Ser Ala Gly Gly Arg Ser
                95                  100                 105

Ala Thr Lys Met Thr Asp Arg Phe Ser Ser Leu Gln His Thr Thr
                110                 115                 120

Leu Lys Pro Pro Asp Val Thr Cys Ile Ser Lys Val Arg Ser Ile
```

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                125                      130                      135

Gln Met Ile Val His Pro Thr Pro Thr Pro Ile Arg Ala Gly Asp
                140                      145                      150

Gly His Arg Leu Thr Leu Glu Asp Ile Phe His Asp Leu Phe Tyr
                155                      160                      165

His Leu Glu Leu Gln Val Asn Arg Thr Tyr Gln Met His Leu Gly
                170                      175                      180

Gly Lys Gln Arg Glu Tyr Glu Phe Phe Gly Leu Thr Pro Asp Thr
                185                      190                      195

Glu Phe Leu Gly Thr Ile Met Ile Cys Val Pro Thr Trp Ala Lys
                200                      205                      210

Glu Ser Ala Pro Tyr Met Cys Arg Val Lys Thr Leu Pro Asp Arg
                215                      220                      225

Thr Trp Thr Tyr Ser Phe Ser Gly Ala Phe Leu Phe Ser Met Gly
                230                      235                      240

Phe Leu Val Ala Val Leu Cys Tyr Leu Ser Tyr Arg Tyr Val Thr
                245                      250                      255

Lys Pro Pro Ala Pro Pro Asn Ser Leu Asn Val Gln Arg Val Leu
                260                      265                      270

Thr Phe Gln Pro Leu Arg Phe Ile Gln Glu His Val Leu Ile Pro
                275                      280                      285

Val Phe Asp Leu Ser Gly Pro Ser Ser Leu Ala Gln Pro Val Gln
                290                      295                      300

Tyr Ser Gln Ile Arg Val Ser Gly Pro Arg Glu Pro Ala Gly Ala
                305                      310                      315

Pro Gln Arg His Ser Leu Ser Glu Ile Thr Tyr Leu Gly Gln Pro
                320                      325                      330

Asp Ile Ser Ile Leu Gln Pro Ser Asn Val Pro Pro Pro Gln Ile
                335                      340                      345

Leu Ser Pro Leu Ser Tyr Ala Pro Asn Ala Ala Pro Glu Val Gly
                350                      355                      360

Pro Pro Ser Tyr Ala Pro Gln Val Thr Pro Glu Ala Gln Phe Pro
                365                      370                      375

Phe Tyr Ala Pro Gln Ala Ile Ser Lys Val Gln Pro Ser Ser Tyr
                380                      385                      390

Ala Pro Gln Ala Thr Pro Asp Ser Trp Pro Pro Ser Tyr Gly Val
                395                      400                      405

Cys Met Glu Gly Ser Gly Lys Asp Ser Pro Thr Gly Thr Leu Ser
```

```
                    410                      415                      420
     Ser Pro Lys His Leu Arg Pro Lys Gly Gln Leu Gln Lys Glu Pro
                         425                      430                      435

     Pro Ala Gly Ser Cys Met Leu Gly Gly Leu Ser Leu Gln Glu Val
                         440                      445                      450

     Thr Ser Leu Ala Met Glu Glu Ser Gln Glu Ala Lys Ser Leu His
                         455                      460                      465

     Gln Pro Leu Gly Ile Cys Thr Asp Arg Thr Ser Asp Pro Asn Val
                         470                      475                      480

     Leu His Ser Gly Glu Glu Gly Thr Pro Gln Tyr Leu Lys Gly Gln
                         485                      490                      495

     Leu Pro Leu Leu Ser Ser Val Gln Ile Glu Gly His Pro Met Ser
                         500                      505                      510

     Leu Pro Leu Gln Pro Pro Ser Gly Pro Cys Ser Pro Ser Asp Gln
                         515                      520                      525

     Gly Pro Ser Pro Trp Gly Leu Leu Glu Ser Leu Val Cys Pro Lys
                         530                      535                      540

     Asp Glu Ala Lys Ser Pro Ala Pro Glu Thr Ser Asp Leu Glu Gln
                         545                      550                      555

     Pro Thr Glu Leu Asp Ser Leu Phe Arg Gly Leu Ala Leu Thr Val
                         560                      565                      570

     Gln Trp Glu Ser


<210> 165
<211> 1060
<212> DNA
<213> Homo Sapien

<400> 165
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 gtggccacaa catggctgcg gcgccggggc tgctcttctg gctgttcgtg 100

 ctgggggcgc tctggtgggt cccgggccag tcggatctca gccacggacg 150

 gcgtttctcg gacctcaaag tgtgcgggga cgaagagtgc agcatgttaa 200

 tgtaccgtgg gaaagctctt gaagacttca cgggccctga ttgtcgtttt 250

 gtgaatttta aaaaggtga cgatgtatat gtctactaca aactggcagg 300

 gggatcccct gaactttggg ctggaagtgt tgaacacagt tttggatatt 350

 ttccaaaaga tttgatcaag gtacttcata aatacacgga agaagagcta 400
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catattccag cagatgagac agactttgtc tgctttgaag gaggaagaga 450

tgattttaat agttataatg tagaagagct tttaggatct ttggaactgg 500

aggactctgt acctgaagag tcgaagaaag ctgaagaagt ttctcagcac 550

agagagaaat ctcctgagga gtctcggggg cgtgaacttg accctgtgcc 600

tgagcccgag gcattcagag ctgattcaga ggatggagaa ggtgctttct 650

cagagagcac cgaggggctg cagggacagc cctcagctca ggagagccac 700

cctcacacca gcggtcctgc ggctaacgct cagggagtgc agtcttcgtt 750

ggacactttt gaagaaattc tgcacgataa attgaaagtg ccgggaagcg 800

aaagcagaac tggcaatagt tctcctgcct cggtggagcg ggagaagaca 850

gatgcttaca aagtcctgaa aacagaaatg agtcagagag gaagtggaca 900

gtgcgttatt cattacagca aaggatttcg ttggcatcaa aatctaagtt 950
tgttttacaa agattgtttt tagtactaag ctgccttggc agtttgcatt 1000

tttgagccaa acaaaaatat attattttcc cttctaagta aaaaaaaaaa 1050

aaaaaaaaaa 1060
```

<210> 166
<211> 303
<212> PRT
<213> Homo Sapien

<400> 166

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Met Ala Ala Ala Pro Gly Leu Leu Phe Trp Leu Phe Val Leu Gly
 1               5                  10                  15

Ala Leu Trp Trp Val Pro Gly Gln Ser Asp Leu Ser His Gly Arg
                20                  25                  30

Arg Phe Ser Asp Leu Lys Val Cys Gly Asp Glu Glu Cys Ser Met
                35                  40                  45

Leu Met Tyr Arg Gly Lys Ala Leu Glu Asp Phe Thr Gly Pro Asp
                50                  55                  60

Cys Arg Phe Val Asn Phe Lys Lys Gly Asp Asp Val Tyr Val Tyr
                65                  70                  75

Tyr Lys Leu Ala Gly Gly Ser Leu Glu Leu Trp Ala Gly Ser Val
                80                  85                  90

Glu His Ser Phe Gly Tyr Phe Pro Lys Asp Leu Ile Lys Val Leu
                95                  100                 105

His Lys Tyr Thr Glu Glu Glu Leu His Ile Pro Ala Asp Glu Thr
                110                 115                 120
```

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Asp Phe Val Cys Phe Glu Gly Gly Arg Asp Asp Phe Asn Ser Tyr
            125                 130             135

Asn Val Glu Glu Leu Leu Gly Ser Leu Glu Leu Glu Asp Ser Val
            140                 145             150

Pro Glu Glu Ser Lys Lys Ala Glu Glu Val Ser Gln His Arg Glu
            155                 160             165

Lys Ser Pro Glu Glu Ser Arg Gly Arg Glu Leu Asp Pro Val Pro
            170                 175             180

Glu Pro Glu Ala Phe Arg Ala Asp Ser Glu Asp Gly Glu Gly Ala
            185                 190             195

Phe Ser Glu Ser Thr Glu Gly Leu Gln Gly Gln Pro Ser Ala Gln
            200                 205             210

Glu Ser His Pro His Thr Ser Gly Pro Ala Ala Asn Ala Gln Gly
            215                 220             225

Val Gln Ser Ser Leu Asp Thr Phe Glu Glu Ile Leu His Asp Lys
            230                 235             240

Leu Lys Val Pro Gly Ser Glu Ser Arg Thr Gly Asn Ser Ser Pro
            245                 250             255

Ala Ser Val Glu Arg Glu Lys Thr Asp Ala Tyr Lys Val Leu Lys
            260                 265             270

Thr Glu Met Ser Gln Arg Gly Ser Gly Gln Cys Val Ile His Tyr
            275                 280             285

Ser Lys Gly Phe Arg Trp His Gln Asn Leu Ser Leu Phe Tyr Lys
            290                 295             300

Asp Cys Phe


<210> 167
<211> 2570
<212> DNA
<213> Homo Sapien

<400> 167
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 agagaagcaa agcgcaacgg tgtggtccaa gccgggggctt ctgcttcgcc 100

 tctaggacat acacgggacc ccctaacttc agtcccccaa acgcgcaccc 150

 tcgaagtctt gaactccagc cccgcacatc cacgcgcggc acaggcgcgg 200

 caggcggcag gtcccggccg aaggcgatgc gcgcaggggg tcgggcagct 250

 gggctcgggc ggcgggagta gggcccggca gggaggcagg gaggctgcat 300
```

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attcagagtc gcgggctgcg ccctgggcag aggccgccct cgctccacgc 350

aacacctgct gctgccaccg cgccgcgatg agccgcgtgg tctcgctgct 400

gctgggcgcc gcgctgctct gcggccacgg agccttctgc cgccgcgtgg 450

tcagcggcca aaaggtgtgt tttgctgact tcaagcatcc ctgctacaaa 500

atggcctact tccatgaact gtccagccga gtgagctttc aggaggcacg 550

cctggcttgt gagagtgagg gaggagtcct cctcagcctt gagaatgaag 600

cagaacagaa gttaatagag agcatgttgc aaaacctgac aaaacccggg 650

acagggattt ctgatggtga tttctggata gggctttgga ggaatggaga 700

tgggcaaaca tctggtgcct gcccagatct ctaccagtgg tctgatggaa 750

gcaattccca gtaccgaaac tggtacacag atgaaccttc ctgcggaagt 800

gaaaagtgtg ttgtgatgta tcaccaacca actgccaatc ctggccttgg 850

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attatatttg caagtatgaa ccagagatta tccaacagc ccctgtagaa 950

aagccttatc ttacaaatca accaggagac acccatcaga atgtggttgt 1000
tactgaagca ggtataattc ccaatctaat ttatgttgtt ataccaacaa 1050

taccccctgct cttactgata ctggttgctt ttggaacctg ttgtttccag 1100

atgctgcata aaagtaaagg aagaacaaaa actagtccaa accagtctac 1150

actgtggatt tcaaagagta ccagaaaaga aagtggcatg gaagtataat 1200

aactcattga cttggttcca gaattttgta attctggatc tgtataagga 1250

atggcatcag aacaatagct tggaatggct tgaaatcaca aaggatctgc 1300

aagatgaact gtaagctccc ccttgaggca aatattaaag taatttttat 1350

atgtctatta tttcatttaa agaatatgct gtgctaataa tggagtgaga 1400

catgcttatt ttgctaaagg atgcacccaa acttcaaact tcaagcaaat 1450

gaaatggaca atgcagataa agttgttatc aacacgtcgg gagtatgtgt 1500

gttagaagca attcctttta tttctttcac ctttcataag ttgttatcta 1550

gtcaatgtaa tgtatattgt attgaaattt acagtgtgca aaagtatttt 1600

acctttgcat aagtgtttga taaaaatgaa ctgttctaat atttattttt 1650

atggcatctc atttttcaat acatgctctt ttgattaaag aaacttatta 1700

ctgttgtcaa ctgaattcac acacacacaa atatagtacc atagaaaaag 1750
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tttgttttct cgaaataatt catctttcag cttctctgct tttggtcaat 1800

gtctaggaaa tctcttcaga aataagaagc tatttcatta agtgtgatat 1850

aaacctcctc aaacatttta cttagaggca aggattgtct aatttcaatt 1900

gtgcaagaca tgtgccttat aattattttt agcttaaaat taaacagatt 1950

ttgtaataat gtaactttgt taataggtgc ataaacacta atgcagtcaa 2000

tttgaacaaa agaagtgaca tacacaatat aaatcatatg tcttcacacg 2050

ttgcctatat aatgagaagc agctctctga gggttctgaa atcaatgtgg 2100

tccctctctt gcccactaaa caaagatggt tgttcggggt ttgggattga 2150

cactggaggc agatagttgc aaagttagtc taaggtttcc ctagctgtat 2200

ttagcctctg actatattag tatacaaaga ggtcatgtgg ttgagaccag 2250

gtgaatagtc actatcagtg tggagacaag cacagcacac agacatttta 2300

ggaaggaaag gaactacgaa atcgtgtgaa aatgggttgg aacccatcag 2350

tgatcgcata ttcattgatg agggtttgct tgagatagaa aatggtggct 2400

cctttctgtc ttatctccta gtttcttcaa tgcttacgcc ttgttcttct 2450

caagagaaag ttgtaactct ctggtcttca tatgtccctg tgctcctttt 2500

aaccaaataa agagttcttg tttctggggg aaaaaaaaaa aaaaaaaaaa 2550

aaaaaaaaaa aaaaaaaaaa 2570
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<210> 168
<211> 273
<212> PRT
<213> Homo Sapien

<400> 168

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 Met Ser Arg Val Val Ser Leu Leu Leu Gly Ala Ala Leu Leu Cys
  1               5                  10                      15

 Gly His Gly Ala Phe Cys Arg Arg Val Val Ser Gly Gln Lys Val
                 20                  25                      30

 Cys Phe Ala Asp Phe Lys His Pro Cys Tyr Lys Met Ala Tyr Phe
                 35                  40                      45

 His Glu Leu Ser Ser Arg Val Ser Phe Gln Glu Ala Arg Leu Ala
                 50                  55                      60

 Cys Glu Ser Glu Gly Gly Val Leu Leu Ser Leu Glu Asn Glu Ala
                 65                  70                      75

 Glu Gln Lys Leu Ile Glu Ser Met Leu Gln Asn Leu Thr Lys Pro
                 80                  85                      90
```

```
Gly Thr Gly Ile Ser Asp Gly Asp Phe Trp Ile Gly Leu Trp Arg
                95                 100                 105

Asn Gly Asp Gly Gln Thr Ser Gly Ala Cys Pro Asp Leu Tyr Gln
               110                 115                 120

Trp Ser Asp Gly Ser Asn Ser Gln Tyr Arg Asn Trp Tyr Thr Asp
               125                 130                 135

Glu Pro Ser Cys Gly Ser Glu Lys Cys Val Val Met Tyr His Gln
               140                 145                 150

Pro Thr Ala Asn Pro Gly Leu Gly Gly Pro Tyr Leu Tyr Gln Trp
               155                 160                 165

Asn Asp Asp Arg Cys Asn Met Lys His Asn Tyr Ile Cys Lys Tyr
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Glu Pro Glu Ile Asn Pro Thr Ala Pro Val Glu Lys Pro Tyr Leu
               185                 190                 195

Thr Asn Gln Pro Gly Asp Thr His Gln Asn Val Val Val Thr Glu
               200                 205                 210

Ala Gly Ile Ile Pro Asn Leu Ile Tyr Val Val Ile Pro Thr Ile
               215                 220                 225

Pro Leu Leu Leu Leu Ile Leu Val Ala Phe Gly Thr Cys Cys Phe
               230                 235                 240

Gln Met Leu His Lys Ser Lys Gly Arg Thr Lys Thr Ser Pro Asn
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Gln Ser Thr Leu Trp Ile Ser Lys Ser Thr Arg Lys Glu Ser Gly
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Met Glu Val


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